

The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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No. 2232.—Vol. XLVIII.

LONDON, SATURDAY, JUNE 1, 1878.

[WITH SUPPLEMENT.] [PRICE SIXPENCE PER ANNUM, BY POST, 21.40.]

MR. JAMES H. CROFTS, STOCK AND SHARE BROKER, AND MINING SHARE DEALER.
No. 1, FINCH LANE, CORNHILL, LONDON, E.C.
ESTABLISHED 1842.

BUSINESS transacted in all descriptions of MINING Stocks and Shares (British and Foreign), Consols, Bonds (Foreign and Colonial), Railways, Miscellaneous, Insurance, Assurance, Telegraph, Shipping, Canal, Gas, Water, and Dock Shares.

BUSINESS negotiated in Stocks and Shares not having a general market value.

BUSINESS in COLLIERY and IRON Shares, and in the principal Wagon and MANUFACTURING COMPANIES of the NORTH of ENGLAND and SCOTLAND.

BUSINESS in all the principal COTTON SPINNING Shares.

Mr. J. H. Crofts, having now established CORRESPONDING AGENCIES in all the CHIEF TOWNS of the United Kingdom, is prepared to deal in the various Local Stocks and Shares at close market prices.

ACCOUNTS OPENED FOR THE FORTNIGHTLY SETTLEMENT.

A Daily Price List, issued at 5 P.M., giving latest Quotations up to close of Market. Also, on the 1st of every month a List of all Securities currently dealt in upon the Mining and Stock Exchanges, with latest prices, current dividends, rate of interest yielded at market price, &c., and every Friday a general List containing closing prices of the week.

MINES INSPECTED.
BANKERS: CITY BANK, LONDON; SOUTH CORNWALL BANK, ST. AUUSTELL.

SPECIAL DEALINGS in the following, or part:—

50 Aberdaunant, 10 G. Lacey, 119 1/2, 50 Port Phillip, 12s.
25 Bodidris, 100 Hultafall, 42 2s. 6d., 25 Rookhope, 19s.
30 Cardiff & Swan, 16s. 6d., 100 Javali, 7s. 6d., 10 Richmond, 23 18s. 9d.
30 Chapel House, 23 3s. 9, 10 Leadhills, 23 3/4, 25 Roman Grav., 47 18 9
30 Chontales, 12s., 25 Llanrwst, 20 St. Harmon, 32s. 6d., 25 Tankerville, 24 1/2
30 Combarnon, 2s., 25 N. Quebrada, 30s., 5 Van, 22 1/2
20 Devon Cons., 23 1/2, 20 N. Zea. Kapun, 11s., 30 Van Consols, 9s.
20 East Van, 24 1/2, 50 Pandora, 30 W. Tankerville, 11s.
50 Exchequer, 1s. 9d., 50 Penstruthal, 4s., 40 ditto Preference, 22s.
25 Flagstaff, 22s., 100 Pestarena, 5s. 3d., 25 W. Wye Valley, 22 1/2
30 Glyn, 17s. 3d., 50 Parys Moun., 9s., 20 Wye Valley, 21 1/2
50 Glenroy, 17s. 3d., 50 Wye Valley, 21 1/2.

* SHARES SOLD FOR DEPOSIT DELIVERY (ONE, TWO, OR THREE MONTHS) ON DEPOSIT OF TWENTY PER CENT.

THE D'ERESBY MOUNTAIN DISTRICT.—
SPECIAL BUSINESS in—
D'ERESBY MOUNTAIN, LLANRWST.
D'ERESBY CONSOLS, PANDORA.
SHARES on SALE at the LOWEST NET PRICES.
JAMES H. CROFTS, 1, FINCH LANE, LONDON.

FOREIGN BONDS—ARGENTINE—EGYPTIAN—RUSSIAN, TURKISH, SPANISH, PERU, &c.
SPECIAL BUSINESS in the above, and Fortnightly Accounts opened on receipt of the usual cover.
JAMES H. CROFTS, 1, FINCH LANE, LONDON.

RAILWAYS—HOME AND FOREIGN.—
SPECIAL BUSINESS in the above, and Fortnightly Accounts opened on receipt of the usual cover.
JAMES H. CROFTS, 1, FINCH LANE, LONDON.

MISCELLANEOUS AND TRAMWAY SHARES.—
SPECIAL BUSINESS in—

MISCELLANEOUS. CHEMICAL. TRAMWAYS.
Albion Palace. Lawes. Argentine.
Fore street Warehouse. Langdale. Bristol.
Halcomb Sack. Newcastle. Edinburgh.
Positive Assurance. Glasgow.
And other Shares. London.
AQUARIUM. Direct. North Metropolitan.
Brighton. Globe. Tramways Union.
Royal (Westminster). Telegraph Construction. And others.
Yarmouth. W. India and Panama.

BUSINESS transacted in ALL MISCELLANEOUS SHARES (of whatever description) having LONDON or COUNTRY MARKET VALUES.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.
BANKERS: City Bank, London; South Cornwall Bank, St. Austell.
ESTABLISHED 1842.

MR. W. H. BUMPUS, STOCK AND SHARE BROKER, AND MINING SHARE DEALER.
44, THREADNEEDLE STREET, LONDON, E.C.
ESTABLISHED 1867.

BUSINESS transacted in STOCK EXCHANGE SECURITIES and MISCELLANEOUS SHARES of every description.

RAILWAYS, BANKS, FOREIGN and COLONIAL BONDS, TRAMWAYS, TELEGRAPHS, and all the LEADING INVESTMENTS.

Accounts opened for the Fortnightly Settlement.

A Stock and Share List free on application.

BUYER of Brookwood shares. Sellers please state number and lowest price.

DEVONPORT and TIVERTON BREWERY COMPANY.—Mr. BUMPUS can supply limited number of these shares at 13s. 6d. each, for cash.

* BLUE TENT, HULTAFALL, and WHEAL GRENVILLE Shares should now be bought. These are all likely to be much higher before long.

SPECIAL BUSINESS, at close prices, in the SHARES of all the principal HOME and FOREIGN MINES.

WILLIAM HENRY BUMPUS, SWORN BROKER.
Office: 44, Threadneedle Street, London, E.C.

BANKERS—THE NATIONAL PROVINCIAL BANK OF ENGLAND, E.C.

MR. GEORGE BUDGE, STOCK AND SHARE DEALER.
9, GRACECHURCH STREET, LONDON, E.C. (Established 28 years).

ALL BUSINESS TRANSACTED FREE OF ANY CHARGE FOR COMMISSION.

Notice to Investors and Speculators.

Mr. BUDGE has SPECIAL DEALINGS in—

30 Allamby, 7 Sheffield Tram.
30 Chapel House, 40 London and County
30 Caron, 23 1/2, 75 Wye Valley, 21 1/2, 35 S. Cwmystwith, 23.
30 Credit "A" shares, 20 Royal Aquarium, 200 Exchequer.
30 Devonport and Tiverton Brewery, 100 Green Harth, 25 Hornachos.
40 Eberhard, 27 1/2, 10 Cotton Powder, 100 Blwch.
30 Flagstaff, 18s. 3d., 10 D'Erresby Con., 101 13 9, 75 Cambrian.
30 Grogwin, 23 1/2, 45 Bodidris, 20 South Frances, 23.
125 Gold Run, 100 Bedford United, 100 Chontales.
15 Red Rock, 22, 60 Gawn, 25 Gorseid and Merlyn.
100 Last Chance, 21 2s., 15 Edinburgh Tram, 10 Santa Barbara, 27s. 6d.
Also in—2 New River £100 shares; 2500 Gas Light and Coke; 15 Van Diemen's Land; 10 Bank of New Zealand; 2500 Van Diemen's Land Six per Cent. Debentures; 10 Bank of New South Wales; 2700 East London Railway; 2200 ditto First Debentures; 2500 ditto Third Debentures; 25 Rio Tinto shares; 250,000 Atlantic and Great Western Railway First Mortgage; 5 City Bank; 2 Paris and Decatur Bonds.

BUYERS or SELLERS of any of the above, or holders of any stocks or shares not readily marketable will do well to apply to Mr. Budge.

ALL BARGAINS SETTLED PROMPTLY.

MESSRS. PETER WATSON AND CO.,
54, OLD BROAD STREET, LONDON, E.C.
BUSINESS in STOCKS and SHARES.

RAILWAYS, BANKS, DIVIDEND LEAD MINES, &c.
BANKERS: THE ALLIANCE BANK (LIMITED).

A CIRCULAR published MONTHLY. Single copy, 6d.; annually, 5s.

MR. ALFRED E. COOKE,
STOCK AND SHARE DEALER,
75, OLD BROAD STREET, LONDON, E.C.
ESTABLISHED 1853.

THE "INVESTORS' GAZETTE" will NOT be issued next Friday. Mr. COOKE hopes to visit the principal Mines in the LLANRWST DISTRICT. Full particulars will appear in the "INVESTORS' GAZETTE" of the 14th JUNE. Application should be made early.—N.B. Important information in last night's Gazette. Subscription, 2s. 6d. per quarter; single number, post free for three stamps.

ALFRED E. COOKE, STOCK AND SHARE DEALER,
75, OLD BROAD STREET, LONDON.

MR. JAMES STOCKER, STOCK AND SHARE BROKER, AND MINING SHARE DEALER.
2, CROWN COURT, THREADNEEDLE STREET, LONDON, E.C.

Established 1848.
RAILWAYS, FOREIGN BONDS, BANK INSURANCE, TRAMWAY, and all MISCELLANEOUS STOCKS and SHARES.

Aberdaunant, 7s. 6d., Parys Mountain, 8s. 6d., Chontales, 12s.
Bodidris, 20s., Pateley Bridge, 38s. 9d., Don Pedro, 12s. 9d.
Chapel House, Roman Grav., 47 1/2, Eberhard, 27.
D'Erresby Consols, 210 1/2, Rookhope, 17s. 6d., Flagstaff, 20s.
Devon Consols, 51s., South D'Erresby, 25s., Frontino, 35s.
Grogwin, 23 1/2, Tankerville, 23 18s. 3d., Gold Run, 6s. 6d.
Glenroy, 16s. 6d., Van, 22 1/2, Hultafall, 42.
Gorseid, 24 1/2, United Mexican, Javali, 7s. 6d.
Glyn, 14s., Wye Valley, Last Chance, 23s. 9d.
Leadhills, 23 14s., West Wye Valley, N. Zealand Kap., 10s. 6.
Llanrwst, West Chiverton, 28 1/2, Pestarena, 5s. 3d.
Pandora, 14s., West Pateley, 23s. 9d., Port Phillip, 11s. 3d.
West Tankerville, 12s. 6, Richmond, 29 1/2.

Minera, Wheal Crebor, West Godolphin.—Almadra, Argentine, Chicago, Hornachos, Javali, Malabar, South Aurora, Tolima.—Allamby, New Sharston, Thorp's Gable, St. Bride's Slate, Credit Foncier, Hudson's Bay, Lawes Chemical, Native Guano.

BANKERS: LONDON AND WESTMINSTER.

MR. T. E. W. THOMAS, SHARE BROKER,
3, GREAT WINCHESTER STREET BUILDINGS, E.C.
ESTABLISHED 1857.

The following are the latest prices at which business could be done. Where the difference between the buying and selling price is wide transactions may be effected at an intermediate price.

Buyers.	Sellers.	Buyers.	Sellers.
Aberdaunant, 7s. 6d.	8s. 6d.	New Zealand Kapanga, 7s. 6d.	10s.
Bodidris, 20s.	1 1/2	North Lacey, 3s.	3s. 6d.
Chicago, 51s.	3 1/2	Parys Mountain, 7s. 6d.	8s. 6d.
Chontales, 12s.	10s.	Pateley Bridge, 38s. 9d.	2 1/2
D'Erresby Consols, 210 1/2	10	Plynnimoon, 3s.	4s.
Devon Great Consols, 51s.	2 1/2	Richmond, 29 1/2	9
Don Pedro, 12s. 9d.	12s.	Roman Gravels, 47 1/2	18s.
Eberhard, 27s.	7s. 6d.	South Condurrow, 11s.	11 1/2
East Canadon, 7s. 6d.	12s. 6d.	Tyn-y-Fron, 1 1/2	1 1/2
East Van, 4 1/2	4 1/2	Tankerville, 23 1/2	4
Flagstaff, 20s.	17s. 6d.	Tincroft, 10	11
Frontino, 35s.	1 1/2	Van, 22 1/2	23
Glenroy, 16s.	15s.	West Chiverton, 8	9
Gorseid and Merlyn, 24 1/2	3 1/2	West Pateley Bridge, 1 1/2	1 1/2
Grogwin, 23 1/2	3 1/2	West Godolphin, 10s.	12s. 6d.
Great Lacey, 19	19 1/2	West Tankerville, 10s.	12s. 6d.
Hington, 7s.	9s.	West Wye Valley, 2 1/2	2 1/2
Hultafall, 42	4 1/2	W. Grenville, 3	3 1/2
Last Chance, 23s.	20s.	Wheal Kitty, 1 1/2	2
Ladywell, 15s.	17s.	Wye Valley, 1 1/2	1 1/2
Leadhills, 23 1/2	3 1/2	Yorke Peninsula, 5s.	6s.
Marke Valley, 10s.	15s.		
Mellancar, 3 1/2	3 1/2		
New Quebrada, 1 1/2	1 1/2		

Selections, founded on practical mining knowledge, made for the use of investors. An experience of 20 years.—Business on hand in East Van, Roman Gravels, Leadhills, Gorseid & Merlyn, Bodidris, Tyn-y-Fron, & other Lead Mines.

MR. E. J. BARTLETT, STOCK AND SHARE DEALER,
No. 30, GREAT ST. HELEN'S, LONDON, E.C.

Capitalists should read the Tenth Edition of "How and When to Invest," post free one Shilling, and a small Pamphlet containing information regarding investments unaffected by war. The latter free by post on application.

SPECIAL BUSINESS in East Lorrain, East Van, D'Erresby Mountain, Chapel House Colliery, Great Lacey, Minera, Richmond, Bodidris, and South Condurrow shares.

MESSRS. J. TAYLOR AND CO.,
MINING ENGINEERS AND INSPECTORS.
88, LONDON WALL, LONDON, E.C.

Have Agents in England, Scotland, Wales, and on the Continent.

WILLIAM B. COBB, STOCK AND SHARE DEALER,
62, CORNHILL, LONDON, E.C.

BANKERS: The Alliance Bank (Limited).

MESSRS. ENDEAN AND CO., 85, GRACECHURCH STREET,
LONDON, E.C. STOCK AND SHARE DEALERS.

Established 1861.
BANKERS: Barclay, Bevan, and Co., and London and Westminster Bank, Lothbury.

English and Foreign Stocks and Shares and all other Securities dealt in for cash or account.

Messrs. ENDEAN and Co. have SPECIAL BUSINESS in the undermentioned—

125 Aberdaunant, 100 North Lacey, 3s.
45 Bodidris, 27s. 6d., 20 Pandora, 10 Don Pedro, 14s.
3 D'Erresby Mountain, 15 Parys Mount, 8s. 6d.
3 D'Erresby Consols, 10 Pateley Bridge, 38s. 9d.
50 Devon Consols, 100 Penstruthal, 4s. 6d.
25 East Van, 24 1/2, 25 Roman Gravels, 47 1/2
10 Grogwin, 23 1/2, 30 Rookhope, 18s.
25 Glenroy, 16s., 50 South de Erresby, 7s. Last Chance, 21.
5 Great Lacey, 19, 50 Tankerville, 23 1/2, 10 N. Zealand Kap., 10s. 6.
30 Leadhills, 23 1/2, 5 Van, 22 1/2, 20 Port Phillip, 11s. 3d.
60 Llanrwst, 10 Wheat Grenville, 23 1/2, 50 Richmond, 29 1/2.
20 Chicago, 10s. 6d.

MR. JOHN B. REYNOLDS, STOCK AND SHARE DEALER,
70 and 71, BISHOPSGATE STREET WITHIN, LONDON, E.C.

Established Twenty Years.
BANKERS: London—City Bank.

Cornwall—Messrs. Tweedy, Williams, and Co., Redruth.

JOSEPH JOHN PYNNE,
STOCK AND SHARE BROKER, AND
MINING SHARE DEALER,
6, BISHOPSGATE, LONDON, E.C.

Mr. PYNNE having been connected with a DIRECTOR of MINES in SHROPSHIRE, MONTGOMERESHIRE, CARDIGANSHIRE, CARNARVONSHIRE, YORKSHIRE, and in VENEZUELA, has had great opportunities of becoming acquainted with this particular branch of industry, and will always be desirous of giving every information in his power to all parties transacting business with him.

ALL DESCRIPTIONS OF SHARES are dealt in, including BRITISH and FOREIGN STOCKS, and RAILWAY SECURITIES.

A DAILY SHARE LIST issued, giving latest quotations up to the close of the market.

AN EXTENDED LIST made up to the first of every month of all securities usually dealt in, giving highest and lowest prices for the month, the current dividends, and when payable, with amount of interest calculated at the present market price. Will be forwarded when desired.

MR. PYNNE DOES NOT ISSUE ANY CIRCULAR.

BANKERS—THE ALLIANCE BANK (LIMITED).

MR. CHARLES THOMAS,
MINING AGENT, STOCK AND SHARE DEALER,
3, GREAT ST. HELEN'S, LONDON, E.C.

MR. ALFRED THOMAS,
MINING AGENT, AND STOCK AND SHARE DEALER,
10, COLEMAN STREET, LONDON, E.C.

"INVESTMENTS AND SPECULATIONS" for 1878,
Price Sixpence.

TO CAPITALISTS, SHAREHOLDERS, INVESTORS.

SAFE DIVIDEND INVESTMENTS.
DIVIDENDS 4 TO 10 PER CENT. PER ANNUM.

Read SHARP'S INVESTMENT CIRCULAR. Post free.

It is a "Safe Guide," giving Reliable Information upon all Stocks and Shares.

Market prices; Dividends upon outlay, and when payable; Reports, &c., &c.

BUSINESS IN THE FOLLOWING MINE SHARES:—

120 Aberdaunant, 100 Great Lacey, 80 South Cwmystwith.
165 Bodidris, 100 Grogwin, 100 Saint Harmon.
100 Cambrian, 110 Hultafall, 50 Tankerville.
30 D'Erresby Consols, 110 Ladywell, 20 Tincroft.
3 D'Erresby Mountain, 100 Ditto Preference, 150 Tolgus Consols.
5 Dolcoath, 80 Leadhills, 20 Van.
100 East Chiverton, 100 Llanrwst, 37 West Chiverton.
20 East Pool, 163 Pandora, 200 West Pateley Bridge.
50 East Van, 100 Pateley Bridge, 120 West Tankerville.
125 Glenroy, 105 Red Rock, 100 Ditto Preference.
100 Gorseid and Merlyn, 80 Roman Gravels, 60 West Wye Valley.
90 Great Holway, 185 Rookhope, 100 Wye Valley.

Intending Investors should apply to us for Shares in the above Mines.

THE LOWEST PRICES WILL BE FORWARDED UPON APPLICATION, OR OFFERS CAN BE MADE WHICH MAY LEAD TO BUSINESS.

Shareholders wishing to sell Shares in above should forward us their instructions.

GOULD SHARP AND CO., STOCK AND SHARE BROKERS,
42, POULTRY, LONDON, E.C.—ESTABLISHED 1852.

BANKERS: London and Westminster, Lothbury, London, E.C.

MR. EDWARD ASHMEAD, 62, CORNHILL, LONDON,
LONDON MINE AGENT, ACCOUNTANT, AND AUDITOR.

FERDINAND R. KIRK, STOCKBROKER,
5, BIRCH LANE, E.C.

Has BUSINESS in—

20 Alamillos, 21 1/2, 75 Javali.
50 Aberdaunant, 50 Don Pedro, 14s., 20 Miner's Safe, 28 1/2.
10 Brighton Aqua, 210, 10 Eberhard, 27 1/2, 20 New York, 23 1/2.
20 Chicago, 15s., 20 General Credit, 26 1/2, 25 Newport Aber, 23 1/2.
40 Chontales, 11s. 9d., 10 General Mining, 23, 20 Wye Valley.
40 Devon Consols, 30 Hultafall, 42, 10 West Wye Valley.

FORTNIGHTLY ACCOUNTS.

A large business is now being done in Egyptian, Unified, and Preference, Turkish 1865 and 1871, Argentine, Spanish, and Bolivian.

In Railways, Brighton, South-Eastern, Chatham, British, Caledonian, and District engage most attention. The necessary covers may be learnt on application.

BANKERS: London and Westminster, Lothbury.

MR. THOMAS THOMPSON, JUN., STOCK BROKER,
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Mr. THOMPSON transacts business in every species of Stock Exchange and Mining Securities.

Mr. THOMPSON affords reliable information to investors, and can give, when desired, a list of first-class Stocks and Shares, yielding 4 to 10 per cent. dividend upon present prices.—Mr. THOMPSON's weekly Circular may be had on application.

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IMPORTANT TO INVESTORS.

GOLD and SILVER MINES must command greater attention. The success of this class of Securities depends entirely on the merits of the mine, and not on merits conjointly with a favourable Metal Market.

WILLIAM GABBOTT continues to advise the purchase of GOLD and SILVER Mining Shares. There are several properties which have unusual promise which he specially recommends. All business transacted at the closest possible market prices. A Special List sent free on application.

MR. W. MARLBOROUGH, STOCK AND SHARE DEALER,
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can sell the following SHARES, at prices annexed:—

50 Aberdaunant, 25 Flagstaff, 21s. 3d., 100 Penstruthal, 4s. 6d.
10 Blacen Caelan, 24 1/2, 15 Gorseid & Merl, 24 1/2, 60 Port Phillip, 11s. 3d.
30 Chontales, 11s. 6d., 15 Grogwin, 23 1/2, 25 Richmond, 29 1/2.
30 Chapel House, 23 1/2, 30 Glenroy, 16s. 6d., 20 Roman Grav., 47 1/2.
40 Don Pedro, 14s. 3d., 40 Hultafall, 42 2s. 6d., 25 Tankerville, 23 18s. 3d.
30 Denbighshire, 27 1/2, 25 Last Chance, 21 1s. 6d., 6 Tyn-y-Fron.
10 D'Erresby Con., 210 1/2, 50 N. Quebrada, 11 12s. 6d., 3 Van, 22 1/2.
15 East Van, 24 1/2, 25 Pandora, 17s. 6d., 20 Wye Valley, 21 1/2.
10 Eberhard, 27 12s. 6d., 100 Pestarena, 5s., 25 W. Tankerv., 12s. 6d.
30 Frontino, 35 1/2, 20 Pateley Bridge, 22 1/2, 5 West Chiverton, 19.

FOR SPECIAL SALE.—15 Devon Consols, 22 12s. 6d.; 20 West Wye Valley, 23 15s.; 15 Rookhope, 17s. 9d.; 100 Yorke Peninsula, 5s. 6d.; 20 Leadhills, 23 15s.; 200 Roma Grande, 2s. 3d. Wanted—100 Gold Run, 3s. 9d.

Shares bought and sold at net prices. Telegrams promptly attended to.

Specially Recommended for an early rise in price.—Gorseid and Merlyn, Bodidris, Tyn-y-Fron, Hultafall, Pandora and D'Erresby Mountain.

MESSRS. E. KINS AND CO., STOCK AND SHARE DEALERS,
14, QUEEN VICTORIA STREET, MANSION HOUSE, LONDON.

BANKERS: Metropolitan.
Special dealings in South de Erresby Mountain Shares.

MESSRS. W. J. TALLENTIRE AND CO.,
STOCK BROKERS, AND DEALERS IN BANK, TRAMWAY, MINING, AND MISCELLANEOUS SHARES,
30, CHANGE ALLEY, CORNHILL, LONDON, E.C.

Transact business in Stock Exchange Securities and Mining Shares of every description, either for immediate cash or the usual bi-monthly settlements, and also afford advice personally or by letter to executors, trustees, capitalists, and investors of every class in the selection of Securities for safe and profitable investment, their experience of the markets, extending over a period of more than 17 years together with special facilities for acquiring information, enabling them to act beneficially for clients.

They have established Corresponding Agencies in all the principal towns of the United Kingdom, and are prepared to deal in the various local Stocks and Shares at close prices. Orders per post or telegraph receive prompt attention.

INVESTORS SHOULD APPLY for a copy of Messrs. W. J. TALLENTIRE and Co.'s Circular, sent POST FREE. It contains valuable information on Foreign Stock, Railway, Mining, and General Investments.

TO INTENDING INVESTORS AND SHAREHOLDERS.

MESSRS. W. J. TALLENTIRE AND CO., 20, CHANGE ALLEY,
CORNHILL, LONDON, E.C., have the following MINING SHARES FOR SALE.

OFFERS CAN BE MADE, OR PRICES WILL BE FORWARDED:—

50 BODIDRIS LEAD, 100 MEDLYN MOOR TIN.
15 EAST CRAYVEN MOOR, do 100 ROKHOPE LEAD.
10 EAST VAN do 15 ROMAN GRAVELS do
100 GLENROY do 15 ST. HARMON do
5 GREAT HOLWAY do 20 WEST CRAYVEN MOOR do
20 LLANRWST do 50 WEST CHIVERTON do

N.B.—Some of the above will be sold on specially favourable terms to cash purchasers.

FOR SALE.

10 Gorseid and Merlyn, £ 4, 100 Hornachos, £13 to £15
20 Cargill, 2, 5 D'Erresby Mountain, 80 to 90
100 Hultafall, 2, 40 Temple, do
10 D'Erresby Consols, 11, 100 Tyn-y-Fron, do
50 Glyn, 2 1/2, 50 Bodidris, do
50 Llanrwst, 2 1/2, 50 Chapel House Col., do

Address, H. WILKINS, 9, Heybourne Villas, Tottenham, N.E.

Lectures on Practical Mining in Germany.

CLAUSTHAL MINING SCHOOL NOTES—No. LXXV.*

BY J. CLARK JEFFERSON, A.R.S.M., WH. SC.,

Certificated Mining Engineer.

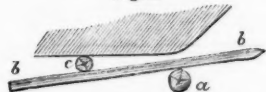
(Formerly Student at the Royal Bergakademie, Clausthal).

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SECTION V.

The mode of executing this method of timbering will be clear by reference to the accompanying sketch (Fig. 1). In doing this, as in

Fig. 1.



most other kinds of timbering, at least two workmen are necessary. Close to the end of the solid roof a stempel (a), called the Ansteck stempel, is fixed in the usual manner, leaving sufficient space, however, between it and the roof for the insertion of the piles (b). As it is necessary for the preservation of the normal height of the level that the piles should have an inclination forwards and upwards, it is usual to insure this at the commencement by inserting about 2 ft. or 3 ft. behind the first stempel a second, called a guide stempel (c). Since the tendency of the superincumbent ground is to depress the front end of the pile (and what comes to the same thing, to raise the back) this guide stempel is placed on the upper side of the piles, in such a position that when the piles press against the under side of the guide stempel, and rest on the top of the Ansteck, they have the necessary inclination. After these two stemfels have been fixed in position the corner piles are inserted in the space between the Ansteck and the solid roof, and are driven so far forward with light blows from a hand hammer that they have sufficient hold to support themselves. In a similar manner the whole of the space between the two corner piles is then filled by the insertion of the ordinary piles, and these are driven so far forward that they will support themselves. One of the workmen now takes the larger sledge hammer, and commencing at one side drives the piles successively from 4 in. to 6 in. forward, not more at a time. This is done with the object of preserving the piles throughout the whole operation parallel to one another, or at least so that the sides shall always be in contact, and completely cover the roof. When the whole of the piles have been driven thus far forward the workman commences again at the side, and drives each one a second time 4 in. to 6 in. forward in succession; and this is repeated until the whole of the piles have been driven from 10 in. to 20 in. (according to the nature of the ground) forward into the loose ground. The second workman during this time has placed himself close against the front end of the pile, and by means of a short crowbar has broken, or scraped, or pushed away any obstruction that appeared to hinder the advance of the pile. He can at the same time observe the advance which each pile makes, and give directions to his comrade to strike either of the adjoining piles, in case it should be necessary for facilitating the advance of any single one. When the piles have been driven in the above distance the attic, or material which has thus been cut off by the piles, is removed. This, however, should not take place to such an extent as to leave the ends of the piles without any support, nor should the material be removed to such an extent as to set up any movement amongst the loose ground; on the contrary, only so much of the ground should be removed as is really necessary for proceeding with the work, and in such cases it may be only so much as will allow the workman room for his head and shoulders beneath the piles. And by never allowing the ends of the piles to be without support beneath them the liability of their being bent down out of the proper direction is lessened, if not avoided.

When the piles have been driven in this manner by successive advances from 4 in. to 6 in. at a time, to slightly more than half their length beyond the Ansteck stempel into the loose ground there will, probably, be sufficient space for insertion of another stempel (d) close beneath and near the front ends of the piles (Figs. 2, 3). This stempel,

Fig. 2.

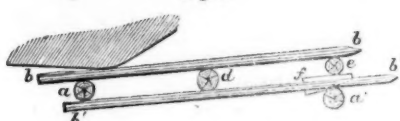
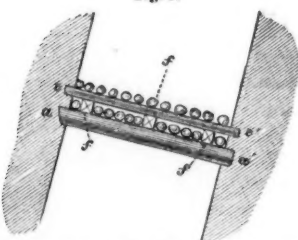


Fig. 3.



often called the "helper," is generally of somewhat smaller dimensions than the Ansteck stempel, and, like the former, it cannot be inserted into position from above, but must be driven in sideways. After the insertion of this stempel, on which the piles rest, the guide stempel may be removed (though it is better to keep it until the heads of the piles have passed it), when the driving of the piles and removal of the ground proceed in the manner and with the precautions we have above described. When the piles have thus been driven to their full length into the loose ground, or rather so far that the heads of the piles overlap the Ansteck stempel 2 in. or 3 in., as shown in Fig. 2, another comparatively thin stempel, or bar (e), called the "Pfandung," is inserted close beneath the front ends of the piles, for which it is intended as a support, or at least a temporary support. After sufficient ground for the purpose has been removed from beneath the Pfandung a second Ansteck stempel (a') is inserted vertically beneath it, of the same strength, and at the same height above the floor of the level, as the first. After this stempel has been fixed in position the Pfandung is supported by inserting three wedges (f) between it and the Ansteck stempel. This completes one set of piling, the Ansteck stempel (a') forming the commencement for a second set of piling, which is proceeded with by driving in piles between the stempel (a') and the Pfandung (e). The second lot of piles (b' b') will be guided at the commencement either by bearing directly against the stemfels a or d, or against a longitudinal bar temporarily attached to the under side of one of the stemfels. When this second set of timbering has been completed, and all the piles driven up, there will remain an open space between the heads of the piles of the second sets of timbering and the Pfandung (e) of the first set. This space is more or less filled with wedges, partly with the intention of preventing any of the loose ground, should it be so fine and quick, from rolling through; and also with the intention of preserving the ends of the first set and the Pfandung supporting them from being bent down close upon the heads of the second set, which would render a later renewal of the piles much more difficult; since with the above arrangement it would only be necessary to loosen the corresponding wedge, take out the pile, replace it by a new one, and to reinsert and drive up the wedge, in order to renew any part of the piling. In the case where the roof is so quick

as to be liable to roll through the above space, the insertion of the wedges cannot be delayed till the completion of the second set of piling, but must be inserted immediately after the ends of the second set of piles have been driven sufficiently far forward. During the time that any single pile is being driven forward the corresponding wedge must be loosened, and again tightened up when the driving forward of the pile ceases, whilst the others are being driven forward. In cases where the superincumbent pressure of the ground is tolerably great it may be impossible to drive the piles forward to half their length, which would be bent or broken before this could be accomplished; and, therefore, in such a case it will be necessary to give the piles some support from beneath before they are driven much above one quarter of their length forward. In this case an auxiliary stempel is inserted, and since there will in general be no opportunity for fixing it in the sides, like the others, it must be supported by means of struts or props, until the piles have been driven so far forward that the "helper" stempel can be inserted. In like manner the next auxiliary stempel must be inserted, and supported beyond the helper, before the piles can be safely driven so far forward as is necessary for the insertion of the Pfandung.

On the other hand, where the pressure above the piles is not so great, or where the piles are sufficiently strong to bear the weight, the Pfandung is often entirely dispensed with, and the ends of the first set of piles rest directly on the heads of the second set, or at most are held apart by wedges. Where the piles can all be made same breadth it will be found advantageous for the later renewal to let the edges of the one set break joint with those of the other set where they are in contact, as this will keep any spaces open made by withdrawing any single pile, so that the insertion of a fresh one in its place will be effected with comparative ease.

Hitherto we have considered only the case where the spilling of the roof is necessary, and we now proceed to discuss the case where the spilling of the two sides as well as the roof has to be undertaken; and although when such a case occurs it is also often necessary to spill the floor as well, we shall consider at present the case where this is unnecessary, though in nearly all such cases, and in the present one, we shall assume that the legs of the door sets rest upon sleepers or sills, as we have previously described. The necessity for using such timbering arises when it is required to drive through wide places in which the ground is quick, as in going through large dirt heaps, or sand beds.

The single sets of timbering in level piling or spilling form, as it were, short truncated pyramids, the small end of the one being inserted in the wide end or base of the adjacent one; the progress of the work (driving the level), however, proceeds in the direction from the apex to the base. The mode of executing the work is perfectly analogous to that we have just described in the case of roof spilling, and our description will be rendered clearer by reference to the accompanying figures (Figs. 4, 5).

Fig. 4.

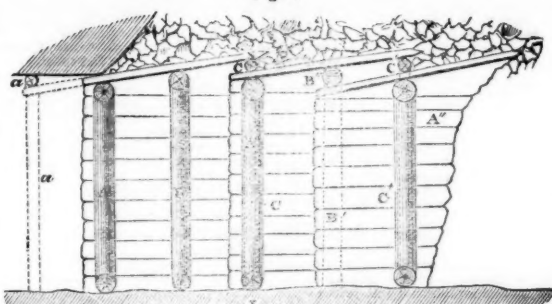
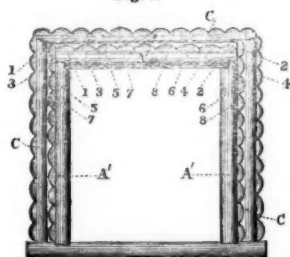


Fig. 5.



Close to the end of the solid ground a door-set [Ansteckgeviere] (A) with ground sills is fixed as usual, leaving sufficient space between it and the roof and the sides of the level as is necessary for the insertion of the piles. Since it is necessary for the preservation of the normal dimensions of the level, or drift, that the space of ground which is cut off by the piles should enlarge both in width and in height as they are driven forward; precautions must be taken analogous to those we have described in discussing the spilling of the roof. The first of these precautions is to cut the corner piles both for the roof and sides so that the front end, which is inserted first, is made much broader than the head. In the Friedrich's Mine, at Tarnowitz, the front ends of the corner piles are made double the width of the back ends, or heads. A second precaution, to ensure the proper divergence of the sides is to insert a temporary guide door-set (B), analogous to the guide stempel in the case of roof spilling. When the corner piles have been inserted both on the top of the cap and against the upper ends of the door-sets, the remainder of the piles are inserted in the order of succession indicated by the numbers in Fig. 5*—beginning at the two sides, and proceeding simultaneously towards the middle of the roof piles in the roof, and proceeding downwards towards the floor behind the legs of the door-set. The piles in the roof and sides having been driven into position with a hand hammer so far that they will support themselves, they are then driven forwards 4 in. or 6 in. at a time (in the order of succession indicated by the numbers in Fig. 5), as we have described in the case of roof spilling, whilst the advance of the piles of both roof and sides is facilitated by the other workman, with the aid of a pointed bar. When the piles have been driven sufficiently far forward (to a little more than half their length), a second door-set (B), corresponding to the helper in the case of roof spilling, is then inserted, and although constructed of timber of a less strength than the Ansteckgeviere (A), must be necessarily larger in outside dimensions to correspond to the enlargement of the section of the space of ground cut off at this place by the piles. As this door-set is really held in position by the pressure of the roof and side piles against it, it will be necessary to firmly hold this in position by means of stringing timber or iron clamps against the first door-set, or by strutting it against the floor till the first sets of spilling timbering has been completed, or at least until the piles have been driven as far as it is intended that they should be driven. After this second door-set (B) has thus been properly fixed in its position the driving forward of the piles by successive advances of 4 to 6 in. proceeds as before, and in the order above given. When the roof and side piles have thus been driven to the full extent intended a third door-set (C), called the Pfandung, is inserted close against the ends of the roof and side piles, for which the cap and legs of the Pfandung form a support. The cap and leg pieces of this third door-set will be correspondingly longer, but of a somewhat smaller diameter or thickness than those of the first two door-sets. This completes the first set of spilling timbering, and the second is commenced by inserting in the same plane as the last door-set, or Pfandung (C), a fresh door-set, or Ansteckgeviere (A'), of exactly the same dimensions as the first, and to support the weaker door-set (C) three wedges are placed between the two cap pieces, and four wedges on each side between the legs on the door-sets (C and A'). When these wedges, which serve the purpose of

* Fig. 5.—A section on X X, fig. 4.

keeping open the space between the door-sets, have been inserted the piles of this second set of spilling timber are then inserted in the space thus kept open between the two door-sets, the commencement being made with the corner piles, and proceeding as before and in the succession above given. In order to preserve this second set of piles in the proper inclination in case the legs and cap pieces of the second door set (B) do not act as the guide door-set, above mentioned, wooden wedges are inserted between the piles already driven in, and the piles in process of being driven into position, each wedge being somewhat loosened during the driving in of the corresponding pile. In order still further to ensure a proper divergence of the roof and side piles, a second set of wedges are sometimes inserted between the cap and leg pieces of the first door-set (A) and the piles. When this second set of piles have been driven to a little more than half their length into the loose ground another door-set (B') of the exact dimensions of the first (B) is fixed in position, and the driving forward of the piles is again proceeded with, as described above, till the second lot of piles have been driven completely forward into their destined position, and supported by the Pfandung (C'), within which the commencement of a third set of spilling timbering is formed by the insertion of the door-set (A'') of the exact dimensions of the two previous Ansteckgeviere (A and A').

GEOLOGICAL SOCIETY OF LONDON.

May 22.—HENRY CLIFTON SORBY, F.R.S. (President), in the chair.

John Collins, Bolton-le-Moors, was elected a Fellow of the Society.—Charles Louis Buxton, Bolwick Hall, Marston, Northamptonshire; Wybrandts G. Oliphants, Chief Engineer's Office, East India Railway, Calcutta; and William Phelps Richards, the Poplars, Shepherd's Bush, were proposed as Fellows of the Society.—William Sando Crump, Clarges-street; Dr. J. D. Gordon, George-street, Portman-square; and Joseph Richard Haines, Adderley Green Collieries, Bolton-Trent, will be balloted for as Fellows of the Society.—The following communications were read:—

1.—"On the Serpentine and Associated Igneous Rocks of the Ayrshire Coast," by Prof. T. G. Bonney, M.A., F.G.S., Professor of Geology at University College, London, and Fellow of St. John's College, Cambridge.
2.—"On the Metamorphic and Overlying Rocks in the neighbourhood of Loch Maree, Ross-shire," by Henry Hicks, M.D., F.G.S.
3.—"On the Triassic Rocks of Normandy and their Environment," by W. A. E. Usher, F.G.S.

4.—"On Foyate, an Eosolitic Syenite occurring in Portugal," by C. P. Sheibner, Ph.D., F.G.S.: communicated by Prof. T. McKenry Hughes, M.A., F.G.S.
The next meeting of the Society will be held on Wednesday, June 5, when the following communications will be read:—1. On the Quarries of Shropshire," by C. Callaway, B.Sc., F.G.S.—2. "On the Affinities of the Mosasauridae, Gervais, as exemplified in the bony structure of the fore fin," by Prof. R. Owen, C.B., F.R.S., F.G.S.—3. "On new Species of Procolophon from the Cape Colony, preserved in Dr. Grierson's Museum, Tournhill, Dumfriesshire, with some remarks on the affinities of the Genus," by Prof. H. G. Seeley, F.L.S., F.G.S.—4. "On the Microscopic Structure of Stromatopores, and on Palaeozoic fossils mineralised with Silicates, in illustration of Eozoon," by Dr. J. W. Dawson, F.R.S., F.G.S.—5. "On a new Species of Loftusia from British Columbia," by G. M. Dawson, D.Sc., F.G.S.

LIGHTING SHOTS IN MINES.

At the Manchester Geological Society on Tuesday, Mr. J. Dickinson, H.M. Chief Inspector of Mines, presiding, an interesting discussion took place on the ordinary methods of lighting shots in mines.

Mr. J. S. MARTIN (hon. sec.) read a paper communicated by Mr. A. Sutherland, of Carrickfergus, giving a description of a new method of lighting shots for blasting operations, which had been invented by the author. After referring to the various methods in use, and to the dangers and disadvantages which in the opinion of the writer attended them, he stated that he had tried various preparations of gun-cotton, but he had succeeded best by immersing cotton wool in a saturated solution of chloride of potash; he made the ignition more lasting and vehement by the admixture of sugar, the preparations giving the best results being 3 of chloride of potash and 1 of crystallised sugar, and the prepared cotton afterwards well dried. This preparation would not ignite spontaneously, and required sulphuric acid to effect its ignition, and this was applied by means of an apparatus operated upon from a distance by a cord, and having a cylinder containing sufficient acid to fire 100 shots. By this method the writer of the paper urged that the danger attendant upon the ordinary method of lighting shots would be removed.

The CHAIRMAN observed that Mr. Sutherland referred to the principal methods in common use for lighting shots, as well as to other methods which were used on special occasions. It was, he thought, about 40 or 50 years since safety fuses came into use; before that time a straw or a paper squib filled with fine gunpowder, or a small piece of candle-wick, or other slow match, were in use. Even still they were not uncommon in some mines, and in rock-salt mines, where sometimes 100 lbs. of gunpowder were fired in the course of one day, the straw and wick were almost exclusively used. In employing squibs or straws a pricker had to be used whilst the stemming was being done, in order to leave a hole for inserting the straw. Shots in this way were fired quickly, and seldom with any accident, and they made less smoke than fuses. With fuses no pricker was needed, nor was any other slow match except the fuse itself considered essential, sufficient length of fuse being left to allow time for the person who lit it to get out of the way. In coal mines in that part of the country where blasting was extensively practised the pricker and straw had chiefly been superseded by the fuse, where safety-lamps were used as an extra precaution, but where the mine was adequately ventilated and it was considered safe to fire shots the fuse was usually lighted by a fine wire, which was heated through the gauze, otherwise the lamp had to be opened by the shot-lighter. In sinking pits through sudden outbursts of fire-damp, and where blasting was indispensable, the shots had sometimes to be lighted by a heated ring guided by a wire. Electricity, petroleum caps, or such like methods might also be made to serve the purpose, but they were not found in practice to be so convenient as the other methods, and were only used on special occasions. In using dynamite, which required percussive force, the fire was usually connected to the detonator by a fuse or other slow match in the ordinary way. Mr. Sutherland had stated the reason why he gave up using electricity, and it was easy to imagine other reasons quite as valid why its use had not become general where numerous shots were being daily fired in various parts of a mine. Mr. Sutherland also quoted Major Forde's condemnation of the "snuff" as a slow match, but suggested no substitute except his own proposed apparatus, which might not be universally accepted. It was, of course, essential before lighting a fuse or slow match that precautions should be taken to ensure a retreat, and to see that no other person came inadvertently in the way between the lighting and the going off of the shot. Occasionally, however, as Mr. Sutherland pointed out, accidents were liable to happen from a person being unable to get out of the way, especially in the bottom of a pit. Accidents had also occasionally happened from a bad fuse firing up quickly, and from inadvertent lighting of the powder in a squib. Possibly some of the numerous mining members of that society might suggest some improvement upon the common methods of lighting shots, and upon Mr. Sutherland's plan, which might be of service. He might add that when Mr. Sutherland sent his apparatus to him, and which was before the members for their inspection, the first thing he asked was how he got the apparatus out of the way when the shot was fired, and he replied that it had to be drawn out of the way by the cord which put it into action.

Mr. PICKUP (Townley Collieries) said he had always found the old system of lighting by means of a fuse the best. He thought with such an apparatus as that before them there would be a difficulty in getting it out of the way.

Mr. PRACE (Astley and Tyldesley Coal Company) said they had

* Being Notes on a Course of Lectures on Mining, delivered by Herr Berggrath, Dr. von GODEFRID, Director of the Royal Bergakademie, Clausthal, The Harz, North Germany.

their shots in the ordinary way with the fuse, and they had no difficulty.

Mr. BARRITT (Norley Collieries) said they had fired with dynamite by electricity from the top, and found it answer very well; of course the small wires connected with the main wire were destroyed, and had to be replaced for each fresh shot. For ordinary shots they fired with the fuse.—Mr. PEACE said that at their collieries they also used the ordinary fuse.

Mr. SEDDON (Great Harwood Collieries) said a good fuse properly fired, and with plenty of length, had in his experience always been a safe method of lighting shots.

Mr. GEORGE WILD (Bardsley Collieries) observed that it was many years since he had anything to do with shots, but he thought that a good double fuse, with a snuff wire, was a very safe method, with the exception that the fuse gave out sufficient flame to ignite gas.

Mr. BURROWS (Atherton Collieries) said in West Durham they still used the straw filled with gunpowder, and they were free from accidents. He had timed these straws, and three minutes elapsed between the lighting and the going off.

Mr. MARTIN referred to the use of the fuse where accidents had taken place. On the Continent they used scarcely anything else but straws, and they were fired by means of a special preparation.

Another member observed that the fuse was a great improvement upon the straw, and the electrical machine upon the fuse. He had used electricity himself, but the men had a prejudice against it, and they had to give it up.

Mr. WOODWARD (Clifton and Kearsley Collieries) said they always used the ordinary fuse, and he had seen it in use for sinking and coal blasting for a considerable number of years, and he had never had any accident with it. The only thing necessary was to exercise care. He had had some idea of adopting electricity, but he had not brought it into use yet. He had heard that it was very successfully used in some slate mines, and he thought they might adopt it in sinking with success.

Mr. SMITH (Bower Colliery, Hollinwood) said that when he was young they used to light with squibs. At their collieries they at present used as much gunpowder as in any mine in Lancashire, and they used the common fuse. They had never had an accident through lighting shots, and if men were careful there would be no such thing as an accident from the use of the fuse. For all practical purposes the fuse was also sufficient for sinking. They had tried dynamite for getting coal, but they had found it did not answer, as the coal was too much broken up. They had less smoke it was true with dynamite, but then they had something worse.

The CHAIRMAN observed that the subject was one which had occupied the attention of the public as involving danger to the lives of the miners, but it did not appear that the members were able to suggest any improvement upon the present method.

Mr. R. FLETCHER, jun. (Atherton), remarked that it was only in sinking a pit there was any considerable risk, and they had never had an accident from this cause.

The CHAIRMAN, in answer to a question, said that thousands of shots were lighted daily, but accidents were very rare.

Mr. PEACE observed that in sinking wet pits they had found dynamite a very good thing to use in the place of powder.

After some further discussion, in which the general opinion was in favour of the present mode of lighting shots by means of the ordinary fuse, the subject dropped.

LECTURE ON EXPLOSIVE AGENTS.

Dr. Carnelly, of Owens College, Manchester, delivered his second lecture under the auspices of the North Staffordshire Institute of Mining and Mechanical Engineers on "Explosive Agents Bearing on Colliery Explosions," at the Town Hall, Stoke-upon-Trent. There was a good attendance, and the chair was taken by Mr. John Strick, President of the Institute.

Dr. CARNELLY said that previous to the discovery of the fulminating compounds of mercury, silver, and gold in the early part of this century, their knowledge and use of explosive agents were limited to gunpowder, or to mixtures having a very similar composition, but the rapid advances which had been made by science during the last 50 years had had considerable influence on the use of explosive agents, especially as regarded the fulminates gun cotton, nitroglycerine, and picric acid, all of which powerful explosives were the result of scientific research. The importance of considering the subject of explosive agents from a mining point of view was shown by the extent to which these bodies were now used for mining purposes, nine-tenths of all the explosives made, including common gunpowder, being used for blasting in mining and engineering operations. One of the chief points to which he wished to direct their attention was the conditions under which the explosion of the most important explosives took place. Another important thing in connection with the subject was the bearing which the use of explosive agents for blasting had on colliery explosions. Leaving out gaseous explosives, he might say that explosives were the solids and liquids which could be made to assume suddenly the gaseous state. The relative volume of the gas thus formed depended in the first instance on the total or partial gasification of the explosive, and in the second place on the degree of the temperature imparted to the same. An increase of every 273° centigrade would effect an expansion in the volume equal to the total amount of the evolved gas when measured at 0° centigrade. Hence it was quite the same, as regarded the pressure of the explosion, whether an explosion evolved a greater amount of gas and less heat, or proportionately a smaller amount of gas and more heat. The force of an explosion depended, first, on the volume of gas produced, and this was greater, *ceteris paribus*, the greater the quantity of explosive converted into gas. This was one reason why the power of nitroglycerine and gun cotton was so much greater than that of gunpowder, for in the latter case a considerable quantity of residue was left, whereas with nitroglycerine no ash remained, all the products of the explosion being gaseous. Supposing there was no increase in temperature, 1 volume of nitroglycerine yielded 1259 volumes of gas, while 1 volume of gunpowder on the average yielded 280 volumes of gas. The second point on which the power of an explosive depended was the temperature produced by the explosion, for the greater this was the greater, *ceteris paribus*, would be the volume of the gas produced at the moment of explosion, and consequently the greater the rending force. In that respect the more recent explosives were superior to gunpowder. A very important circumstance which influenced the power of an explosive was the suddenness with which the explosion took place, for the more sudden the explosion the greater the force developed. This depended in a great measure on the speed with which the ignition spread through the mass of the powder, which in turn depended on its chemical and mechanical condition, and also on the method of firing. Having explained the chemical nature of explosive agents, he said gun cotton might be made to burn very slowly, and almost without flame. It burnt with great rapidity, but without explosion, when simply ignited by the flame of a lamp. He showed a small cake of compressed gun cotton into which a hole had been bored by a red-hot poker without any explosion. The same cake would when fired by a fuse of fulminate of mercury be sufficient to convert the Town Hall into a heap of ruins. Gun cotton might, when burnt in a confined space or under conditions depending on the mode of firing and its mechanical condition, be made to explode with terrific violence. Other explosive bodies were similarly influenced. A charge of gunpowder in a cylindrical tin case fired by a fuse inserted near the bottom exploded much more violently than the same charge ignited by a fuse placed just beneath the surface. Chloride of nitrogen, unless confined, exploded with comparatively little violence. Nitroglycerine which resembled chloride of nitrogen in the suddenness of its explosion, did not explode when a naked light was applied to it for a short time, but required the fulfilment of special conditions for the development of its explosive force. It was not necessary for the substance to be confined in order to develop its explosive power. This result was readily obtainable by exposing the substance to the action of the detonation produced by the ignition of a small quantity of fulminating mercury closely confined, and in close proximity to the nitroglycerine. It

also exploded by percussion or in contact with red hot iron, but not when a piece of red-hot copper or a burning coal was thrust into it, provided it were not confined. He explained that dynamite, a mixture of nitroglycerine with various other substances, if made with quartz sand, possessed greater rending power than when prepared with a more yielding material. He then gave illustrations of the explosive effects produced by ignition, percussion, and detonation. As a rule, he said, explosions of one and the same substance by percussion were far more violent than those produced by simple ignition, whilst those produced by detonation were the most violent of all, the difference being owing to the speed with which the explosion took place throughout the whole mass. In the case of firing gunpowder by ignition the explosion spread comparatively slowly from particle to particle, while when fired by detonation the explosion took place almost instantaneously throughout the charge. Charges of gun cotton contained in blast-holes, and having a detonating fuse inserted in or immediately over them, had produced much greater rending and shattering effects in hard rocks (although the blast-holes were left entirely open) than similar charges with common fuses, although in the latter case the gun cotton was confined by a tamping. He reserved for a future lecture some remarks on the bearing of the use of explosive agents on colliery explosions. There were several interesting experiments during the evening.

THE PARIS INTERNATIONAL EXHIBITION. No. III.

[FROM OUR OWN CORRESPONDENTS.]

The Ville de Paris is situated in the central space in the Champ de Mars Exhibition; originally it was intended that this pavilion should be erected in front of the Champ de Mars, adjacent to the Seine, but the great demand of this space for the annexes rendered it impossible to carry out the proposition. The central space now occupied by the Ville de Paris was intended for an ornamental garden, but this idea had to be abandoned. This building is very elaborate in structure, and highly ornamental, and we have no hesitation in stating that it is one of the most pleasing, and possesses greater architectural merit than any other building belonging to the French department connected with the Exhibition. It has cost 10,000L. It is about 303 ft. in length by 115 ft. in width, and encloses an area of about 3939 square yards. The principal hall is 83 ft. wide, and there is a space or gallery running along the sides and ends of this building nearly 16 ft. wide. The central hall is relieved by a line of columns on each side, set apart transversely at a distance of 65 ft. 7 in. from centre to centre. In each row longitudinally they are set apart at a distance of about 49 ft. 2 in. The principal standards of the building are about 9 ft. in the rear of these columns, and are set apart at the same distance. They are a little over 12 in. in depth, and constructed of open lattice work over 45 ft. high; this length corresponds to the height of the springing of the roof above the general level of the ground. The columns are nearly 28 ft. above the ground level, and from this height a series of girders, 23½ in. deep, are placed longitudinally surrounding the entire building. The columns and standards are connected by short lattice girders. The roof principals are carried by transverse girders, 16 ft. 6 in. long; the intervening spaces are filled up with cast-iron brackets, which give a very ornamental appearance. The truss of the roof is cut out into sections or panels of about 8 ft. 2 in. each, and the depth at the centre is 17½ ft., and at the ends 14½ in.

The galleries on the sides of the building are supported on columns 23 ft. high and nearly 16 ft. wide; a lean-to roof covers this gallery. The side and end façades of this building are decorated in a highly artistic manner. Upon each column a splendid frieze rests, and in the centre of each bay form the classes of the exhibits are inscribed, such as Enseignement, Primaire, Ecoles Professionnelles, Cours d'Adultes, Promenades et Plantations, &c. There are three principal entrances to the building, each being 18 ft. 9 in. wide, and 23 ft. 9 in. high. The entablature, architraves, &c., are richly decorated in colour faience. There are inscriptions above each doorway, such as Beaux Arts, Prefecture du Département de la Seine, &c. The glass fitted in between the architraves and top of the door has been arranged in geometrical patterns. The roof springing and gutters have been concealed by a deep moulding of exquisite pattern, which runs along the top of the windows from end to end of the building. Light is obtained from these geometrical glass bays. The hall itself is lighted from the roof. The design of this building reflects great credit on the engineer engaged upon it.

The Palace of the Trocadéro will in part be occupied by foreign exhibitors, otherwise it is strictly intended to be occupied by the French department, which has, taken collectively, a larger amount of space allotted to it than all the other countries put together; this is only the natural result of its being a French Exhibition.

Spain, China, Persia, Sweden, and Norway have pavilions. All the articles collected for exhibition from Algeria are to be found in the Algerian palace and annexe, which is, indeed, a very fine structure. The exhibits of civil engineering, railway, and constructive material, as well as a variety of conservatories, and the two great pumping stations, are to be found on this side of the Seine.

France occupies the whole of one side of the Exhibition on the Champ de Mars, also the vestibule near the Ecole Militaire, and one half of the vestibule opposite the Seine. In the exterior of the main building are to be found five French boiler-houses, the two grand French annexes for machinery, and also the Bureaux d'Administration between them, pumping machinery, the annexe for life-saving appliances. There are also a number of smaller buildings for French exhibits. There is also a long hall, or annexe, opposite the Quai, and extends as far as the Pont d'Alma, intended for French agricultural machinery.

England stands second to France in point of space. She takes with France the one-half of the grand vestibule, a great portion of which is occupied by the trophies of the President of the British Commission, which he obtained when on his visit to India. Other exhibits from our great Eastern Empire are to be found in this vestibule. While it is very natural to extol the efforts put forth by our own nation in its endeavours to render its exhibits worthy of so great a people, we must not forget that the collections of other nations are equally important, not only as conveying to the mind of Englishmen the capabilities and resources of other countries, but a definite conviction as to the realisation at no very distant date of further competition in general manufactures and commerce. The English people who may, therefore, visit the Exhibition—and they are many—will do well to note all important changes and improvements, and endeavour to profit by such experience; this we take to be the most important matter for foreigners connected with exhibitions.

The United States of North America was rather late in the field, being a natural result of the long distance and difficulty of transporting goods. They will not, however, suffer in the least by this, as they have made excellent use of the time at their command; they are adjacent to the English, and have also a high place of honour.

The allotments to Australia and Belgium are also very important, and it is considered that the exhibits from Switzerland and Belgium will rank next to England and France. Belgium and Switzerland have wonderful enterprise in taking a large part in the Exhibition, and there cannot be a doubt but that they stand in the first rank of industrial capabilities. The façade of the Belgium department is certainly a very fine one. Italy, Spain, Sweden and Norway, China, Japan, Portugal, Denmark, Holland, and South America are all well known as important exhibition countries. We shall refer to everything worthy of notice hereafter.

The Algerian Palace, which is situated in the grounds of the Trocadéro, is very conspicuous among the many pavilions of the Exhibition buildings. The structure contains a courtyard and fountain, and also a collection of tropical plants shade portions of the court which has no covering. The space around this court is employed for exhibition purposes. This building is in the style of the old Moorish palaces; it has white façades, and forms one of the most striking objects in the Trocadéro grounds; it cannot be mistaken, as it has a general white appearance.

The façade of the building called "Administration des Eaux et Forêts" is very rustic, and is constructed of every variety of wood

grown in France. The architect for this building was M. Etienne, and it was constructed by M. Limmonet. There are annexes near this building, one of which is set apart for the exhibitors of meteorological instruments. There is also an annexe in this neighbourhood 36 ft. square, allotted for the purpose of exhibiting bees and other objects of natural history. Two of the most useful buildings we have yet referred to are situated nearly in the centre of the Trocadéro grounds, and are for refreshment purposes—restaurants, in fact, as much as 130 ft. in length.

The annexe called the Genie Civil consists of three large buildings, each being 147 ft. long by 60 ft. wide, and are connected together by a vestibule 36 ft. in length. These buildings are situated between the Quai de Billy and the new sunken way. Nearly in front of these buildings, and on a level with the river and pumping stations, one of them is the exhibit of MM. Leconteux et Garnier, and the other that of MM. Lebrun et Cie. Between the space belonging to the "Administration des Forêts" and the wall of the sunken tramway are situated several small detached buildings intended to contain everything coming under class 66, which will comprise architectural exhibits, civil engineering, public works, machinery for constructing foundations. On the other side of the Pont d'Jena are three other pavilions of the same size as those just described, and are intended to contain the exhibits in class 64, and refers chiefly to railways and plants.

The Persian palace is 51 ft. long by 30 ft. wide, and the style of architecture adopted is national. A very curious feature in this building is displayed in the ceilings of the principal hall; it consists of an almost innumerable number of small mirrors arranged. This was undoubtedly a most difficult task to perform, but it has been satisfactorily performed by workmen from Persia. The pavilion belonging to the Chinese is a large one, and was constructed of wood and painted in China before it was brought to France.

There are three large annexes situated outside the Quai de Billy, opposite to the building of the Genie Civil, and near the level of the Seine, devoted to pumping machinery. The first building is 279 ft. long by 43 ft. wide, and the second is 492 ft. long and 61 ft. wide. Exhibits referring to navigation will be found in this annexe. The third building is 508 ft. long and 61 ft. wide, and will contain an important collection of exhibits referring to the ports of France. There are three pavilions as well as that for the use of the Minister of the Interior, erected opposite to the Ecole Militaire. The former are devoted to classes 17, 64, and 14.

At the angles of the Champ de Mars are situated Porte Daplex and Porte Tournville, and between the annexes just referred to and the vestibule of the Exhibition exhibits of heavy and miscellaneous character will be seen. We have before referred to the boilers, but it will not be out of place to mention that the space between the Avenue de la Bourdonnaye is entirely occupied by the French annexes—i.e., two large galleries for machinery, and the buildings of the Administrative. There are also situated here five French boiler-houses, containing boilers by MM. Boyer et Cie, MM. Chevallier, Grenier, and Droux, of Lyons; MM. Weyer and Richemond, of Paris; the Belleville Boiler Company, and the Fives Lille Company. Proceeding a little further we arrive at the Quai d'Orsay, where we find a large annexe belonging to the "Ministère des Travaux Publics." Near here there are also other large annexes belonging to Creusot, Terre-Noire, St. Chamond, and also a building belonging to the Paris Gas Company.

In front of the grand vestibule is to be found a beautifully laid out pleasure ground, filled by convenient pathways, two pieces of ornamental water, and many beds of splendid flowers. Opposite the great tower at the south-eastern corner of the building one of the ornamental pieces of water is adjacent to a series of grottoes. There are many fictitious stalactites formed in the grottoes, which are overlaid by high earthwork, turfed, and laid out with flower beds. This elevated earth work is divided by a series of paths, some of which are formed of steps in rusticated stone, which is communicated with the grottoes and the top part of the earth work and other parts of the grounds.

The aquarium is of very great interest, and is a place of wonderful attraction; it is situated in the grounds of the Trocadéro. The whole structure is sunk below the level surface to a depth of 26 ft. There are 17 tanks arranged round the sides of the aquarium, which is of an elliptic form; there are also 7 tanks arranged in the centre; these tanks are all open at the top, and the space between them is filled up by pathways and beds. The staircases leading to the grottoes, the frames of the tanks, and everything connected with the aquarium are constructed in rustic stonework, the aquarium being, as it may be supposed, a fresh water one. One side of each tank is formed into a window, which opens into the tunnelled pathways leading through the aquarium. These windows are filled with glass, and as the water rises above the top of them the fish in the tanks are inspected from the tunnelled grottoes through the windows, some of which are as much as 8 ft. in height, coming down to within 2 ft. of the floor of the pathways. These underground passages are lighted through the top of the water and windows in each tank.

Formerly much discussion took place as to the mode of ventilating the Trocadéro Palace. Some of the authorities were of opinion that the air should be made to ascend, but it was soon found that this mode possessed great disadvantages. It was, therefore, decided that the air should be made to descend in a pure condition from the top of the building, but a necessary condition imposed that there should be but slight pressure, so slight, indeed, as to prevent inconvenience to the audience. A very large number of exits have been provided to assist in this purpose. A slight pressure has been arranged capable of creating a velocity of about 13 ft. per second. Three air shafts have been provided between the sides of the orchestra and the face of the wall adjoining the Place du Roi de Rome. One of these admits pure air from the level of the foundation of the palace, and communicates immediately with the top of the building. At suitable levels valves are placed which allow of air being drawn from the foundation of the building in one case, and from its top in another case. Great advantages thus accrue from this mode of conducting in fresh air, and at the same time allowing the noxious air to escape. A constant wave of fresh air is thus obtained from the galleries and air shafts connected with the garden of the palace.

The air will be delivered by two fans in a direction towards the top of the building, where it will enter, and is then dispersed, descending with an easy velocity throughout the whole of the building—afterwards it flows out at or near the basement through as many as 5000 openings. One of the fans is employed for the purpose of moving the air from the building by exhaustion, and the other for forcing the air by an independent shaft to the top of the building. Thus, the condition for supplying 52 cubic yards of air per hour for each person, or a total of 264,000 cubic yards of air per hour for an audience of 5000 persons, has been complied with. The fans were designed by M. Ser, Professor at the Ecole Centrale.

Although the Trocadéro Palace has not yet been opened, or indeed finished, experiments have been made with the machinery, and the general arrangements are considered to be highly successful.

It will, we think, prove of great service to those readers of the *Mining Journal* about to visit the Paris Exhibition if we refer more particularly to the classification of the exhibits. The whole we find has been divided into nine groups, and these again have been subdivided into 90 classes.

In Group I. we have five classes referring to works of arts. These comprise—1, oil paintings; 2, water colour and other drawings; 3, sculpture; 4, architectural drawings and models; 5, engravings, &c.

In Group II. we have 11 classes. The sixth class in order refers to everything connected with schools and teaching and exhibits relating thereto; classes 7 and 8 also refer to higher class schools, with models and exhibits of scientific committees; classes 9, 10, and 11 include printed books, paper bindings, art materials for painting and drawing, and application of the arts of modelling and drawing; class 12, specimens of photography and photographic apparatus; class 13, musical instruments; class 14 refers to medicine, sanitary appliances, and public aid exhibits; class 15 includes scientific instruments, such as apparatus for measuring with great precision connected with geometry, levelling, topography, geodesy, calculating machines, Verniers, micrometers, dividing machines, astronomical instruments, &c.; class 16, maps, apparatus connected with

geography, &c., including physical charts of all kinds, and relief plans.

In Group III. we have 12 classes, from 17 to 29 inclusive, referring to furniture and its accessories. Class 17 includes cheap and costly articles of furniture; class 19, glass and crystal; class 20, ceramics; class 21 includes carpets and upholstery; class 22 includes coloured papers; class 23, cutlery; class 24, goldsmiths' work; class 25, art bronzes and repoussé work; class 26, clock-work, such as astronomical clocks, marine chronometers, electric and turret clocks, &c.; class 27, apparatus for methods of heating and lighting; class 28, perfumery; class 29, fancy goods.

In Group IV. we have 10 classes, from 30 to 42 inclusive, referring to fabrics, clothing, and accessories; class 30, cotton, thread, and fabrics; class 31, flax and hemp; class 32, yarn and fabrics of combed wool; class 33, yarns and fabrics of corded wool; class 34, silk and silk tissues; class 35, shawls; class 39, jewellery; class 40, small arms; class 41, travelling equipments, including apparatus for scientific expeditions, instruments for astronomical observations for geologists, mineralogists, naturalists, &c.; class 42, toy exhibits.

In Group V. we have seven classes, from 43 to 49 inclusive, including extractive industries, raw and manufactured material; class 43 refers to the mine and metallurgy, such as collections and samples of rock, decorative stones, minerals and ores, earths and clay, hard rocks, miscellaneous mineral productions, rock-salt and other salt, crude sulphur, coal, coal residues, combustible minerals, agglomerated coal, asphaltic and asphaltic rocks, mineral tar, bitumen, crude petroleum, metals, cast iron, wrought iron, steel, steel iron, copper, silver, zinc, lead, metallic alloys, products of the art of gold refining, electroplating in copper, iron, nickel, castings, bells, special section of bars, merchant bars, tin sheets, armour plates, &c.; class 44, forest products and forest working; class 45, products of the chase, fishing appliances; class 46, non-alimentary agricultural products; class 47, chemical and pharmaceutical products; class 48, chemical processes for bleaching, dyeing, and printing; class 49, leather and skin.

In Group VI. we have 17 classes, from 50 to 68 inclusive, referring to appliances and processes connected with mechanical industry. Class 50, material and processes for working mines and metallurgy—such as shaft-sinking appliances, artesian wells, and shafts of large diameter, coal cutting machinery and rock-drilling machines, apparatus for firing blasts by electricity, models, plans, and drawings illustrating the working of quarries and mines; pumping machinery and appliances for lifting water, winding engines and other machinery for mines, ventilators and ventilating apparatus, electric lamps, safety lamps, life-saving appliances, signals, appliances for the manufacture of coke, metallurgical furnaces and earths, machinery for making agglomerated fuel, forge and foundry plant, material for metallurgical works, electric metallurgical apparatus, &c.; class 51, agricultural and forest material and processes; class 52, material and processes connected with agricultural industries; class 53, material employed in the chemical and pharmaceutical arts, and in tanning; class 54, general machinery—separate pieces of mechanism, gearing, slides, brackets, steam and other governors, belts, parallel motions, connecting rods, counters, lubricators, gauges, dynamometers, recording apparatus, appliances for gauging liquids and gases, weighing apparatus, hydraulic lifts, pumps, hydraulic rams, apparatus for the handling of heavy loads, turbines, water-wheels, water column machinery, hydraulic presses and accumulators, steam-engines, boilers, steam generators, fittings, &c., motors driving by ether, ammonia, chloroform, gas and hot-air engines, compressed air engines, electro-magnetic engines, &c.; class 55, machine tools; class 56, material and processes for spinning and cord-making; class 57, weaving machinery; class 58, material and processes for cutting out and making clothing; class 59, material and processes for making furniture; class 60, material and processes connected with paper industries; class 61, miscellaneous machines—that is to say, coining presses, &c.; class 62, carriages, vehicles, and processes; class 63, saddlery and harness work; class 64, material for railways—separate objects, springs, brakes, &c., fixed plant, turntables, switches, crossings, fish plates, rails, water cranes and tanks, steam carriages and small locomotives, tools for construction, special machinery, plant for working inclined planes for atmospheric railways, models of engines, system of traction, &c., models, plans, drawings of stations, railway buildings, &c.; class 65, telegraphic material and processes, electric telegraphy, poles, conductors, insulators, and telegraphic apparatus dependent upon the transmission of light, sound, &c., electric batteries, bells and signals, transmitting and receiving apparatus, &c.; class 66, civil engineering, public works, and architecture, including models, plans, and drawings of public works, bridges, viaducts, aqueducts, sewers, locks, &c.; class 67, material and appliances connected with navigation and saving of life; class 68, the art of war, including military transport, military topography, and geography.

In Group VII. we have seven classes, from 69 to 75 inclusive, relating to alimentary products.

In Group VIII. we have nine classes, from 76 to 84 inclusive, referring to agriculture and pisciculture; class 76, specimens of farm buildings and agricultural works; class 77, horses and other animals; class 78, oxen, &c.; class 79, sheep, &c.; classes 80, 81, and 82, pigs, poultry, dogs, &c.; classes 83 and 84, useful and noxious insects, and fish, &c.

In Group IX. we have six classes, from 85 to 90 inclusive, referring to horticulture—such as conservatories, flowers, vegetables, trees, fruit, seeds, plants, &c.

In class 1 there are 131 exhibitors and 283 subjects; in class 2, 106 artists and 191 subjects; in class 3, 23 artists and 146 subjects; in class 4, 64 artists and 171 exhibits; in class 5, 17 exhibitors and 42 objects. Group II. includes 223 exhibitors—education of children, 10; superior ditto, 8; printing and books, 38; stationery, 44; drawing and modelling, 15; photography, 50; musical instruments, 19; medicine, 16; scientific instruments, 17; maps, &c., 6. In Group III. there are 253 exhibitors—furniture, 38; upholstery, 30; glass, 23; ceramics, 30; carpets, paper-hangings, 3; cutlery, 5; goldsmiths' work, 9; bronzes, &c., 6; clocks and watches, 9; heating and lighting, 20; perfumery, 14; leather work, 31. In Group IV. there are 292 exhibitors—cotton, 28; flax, 19; worsted, 10; wool, 69; silk, 38; shawls, 3; lace, 16; hosiery, 15; clothing, 44; jewellery, 16; small arms, 18; travelling equipments, 6; toys, 10. In Group V. there are 241 exhibitors—class 50, mining and metallurgical appliances, 25; agricultural implements, 60; ditto processes, 40; chemical apparatus, 15; machines, 79; ditto tools, 8; spinning and rope making, 15; weaving, 11; making clothes, 13; apparatus for making dwellings, 8; paper-making, 16; miscellaneous machines, 7; carriages, 41; harness, 22; railway material, 22; telegraphic apparatus, 8; civil engineering, 81; navigation, 45; the art of war, 6. In Group VII. there are 101 exhibitors. In Group VIII. 1, and in Group IX. 22 exhibitors. The total number of exhibitors, therefore, amounts to 2002.

On Friday we made a thorough inspection of all the machinery in the different sections and annexes, and find that there are still many machines far from completion. In the American section we were present at the starting of a very fine single cylinder engine, which is employed in driving a large number of other machines in its immediate vicinity. It is a good specimen of the particular type of horizontal engine which it represents. We are pleased to be able to say that, in our opinion, for good workmanship in all its details, as well as ornamentation of the several parts capable of it, there is certainly nothing that will surpass it in any of the machinery departments. It was constructed by an American firm, and on a future occasion we shall give more full particulars of it. The Canadian trophy, which is an ornamental wooden structure, is not yet quite finished, and the area surrounding it is occupied by several workmen busily engaged in preparing the several portions to receive exhibits intended to occupy this site. Some of the mineral monuments are already built up *in situ*, and others are in progress, which when finished will prove of considerable interest, and we shall not omit to give a proper description of it.

On Friday afternoon the Algerian Department was officially opened by Marshal McMahon. It may be interesting to state that this department includes exhibits of those inhabitants of Alsace and Lorraine (annexed to Germany a few years ago), and who left those provinces in preference to remaining, and thus become a portion of

the German Empire. A society was formed for the protection of the people, the French Government giving them a district in Algeria, which they colonised, their fellow countrymen also supplying them with means and necessities by which they could obtain their livelihood, such as instruments for the field and house. The Marshal was received by the President of the Society, M. le Comte d'Aussanville, together with M. Rimpler (Vice-president), M. Pensa (secretary), and a large number of members, among whom we may mention MM. Mézières, of the French Academy; Alexandre, President of the Court of Appeal; General Hartung; Barons Bassières, Hymel, Durien, Wurtz; Comtes Malitor, Emile Georges; Captains Furley, Binder, Aaron, and Eugène the younger, the architect, who constructed the work. The Marshal was accompanied by Generals Chanzy and Bertleim.

The exhibits convey a very favourable impression, in so far as they tend to show the wise manner in which the subscriptions given the colonists has been laid out. There are three houses, attached to which are small buildings, which serve as places for the exhibition of the domestic animals and agricultural material, the latter of which is a representation of the implements given to the colonists. In each room of the houses referred to there is a tabulated manuscript giving a list of articles which were presented to each family. The President of the Republic examined very minutely all the territorial plans representing that portion given to the society under the name of the "Champ du Maréchal," which comprises the villages of Boux-Halfa and d'Haussonville.

The next visit was paid to the Algerian Palace, which has already been referred to as one of the gems of the Exhibition; this, in connection with the three other houses, being situated in the Trocadéro grounds. There was a considerable rush of gentlemen and ladies who had collected with a view of obtaining a sight of the Marshal, but they were kept back by the police, who protected every avenue leading to the Palace. Many attempted to gain admission, but were prevented, and so strict were the officials that even inside the building everyone apparently not connected with the Commission was not permitted to accompany it. Marshal McMahon was received here by M. le Commissaire Organisateur, M. de Dyane, and members of the Algerian Commission. He made many enquiries upon various exhibits, and especially on the industrial working of mines and agriculture. We had the honour of accompanying the Commission and the Marshal in their tour of inspection, and we believe we were the only two Englishmen present.

DEVON GREAT CONSOLS.

The half-yearly general meeting, held on Wednesday—the particulars of which we publish in another column—was one of more than ordinary interest, owing to the important question to be finally decided as between the shareholders and those employed by the company, particulars of which had already been circulated. The action of the board was, of course, criticised by some three or four of the shareholders at the meeting, whilst, on the other hand, the board were applauded by many present for what they had done, as set forth in their report. The result of the meeting was that there were present in person and by proxy about 12 shareholders holding under 900 shares, against the action of the board in the question, only, however, of the alteration from the 13 four-weeks pay; whilst, on the other hand, there were present in person and by proxy some 120 shareholders, holding about 5600 shares, in support of the board of directors' action in having only 12 monthly pay days, the chairman of the meeting (Mr. Peter Watson), holding by far the largest interest, stated to be 800 shares, and thus actually possessing but about 100 shares less than the opponents collectively could muster against the board's action. This result is nothing more or less than we long ago predicted.

No doubt Mr. Samuda (a small shareholder) remembered many who remembered him when he once represented Tavistock, and attended the meeting to give a helping hand accordingly. He should not, however, forget the effect of the longshipbuilding strike on the Thames. In the same way Lord Arthur Russell, M.P., is as anxious to please his constituents in and around Tavistock, and he would not be policy for his own interests were he not to do so, for he, too, might be remembered at the next general election. The reply of his Grace the Duke of Bedford to the memorial of the men is nothing more than could be expected, but as the Chairman (Mr. Peter Watson) ably pointed out the remarks of Mr. Samuel Morley, M.P., the other day at Bristol, when he, the hon. gentleman, stated "His opinion that Trades Unions, whilst useful in fostering the spirit of combination, have done harm by bringing strangers in to negotiate between employers and their workpeople. That had been his experience as an employer. He further expressed his belief that unless the hours of labour are lengthened the demand for English manufacturers will decline, and added that he trembles for the future of large numbers of English workpeople."

It is impossible not to endorse these remarks, that the employer and employed only should settle their differences, with no outward interference; and, as the miners of Devon Consols issued a circular of their grievances, and local newspapers were also forwarded to the shareholders containing strong and, indeed, inaccurate and uncourteous language, the result, therefore, as between the miners and the shareholders, is now finally settled, and it is for those lately employed by the company simply either to accept or decline work at these mines by 12 monthly pay-days, and as was known from time immemorial until some six years (1872) ago, when, as is well known, that year and the following (1873) were two years of the greatest mistakes which have ever been known as regards the great agitation which then existed either by the alteration in the time of payment of wages, the rapid increase of wages, the short hours—indeed, it became short days of work, &c., all over this country, which has been the means of crippling industry and commerce ever since.

But employers have had gradually to reverse the gigantic mistakes then made, and miners throughout the country have had in all cases ultimately to bow to the inevitable decision of their masters. It is to be hoped that no more will be heard of such foolish strikes in Cornwall or Devon; for, as a *Truro* correspondent—Mr. Symons—puts it—

"It is downright folly and wickedness. Is it not wicked for the father of a family to refuse work when he can have it, and by that refusal bring his family to the border of starvation. The men should not assume to dictate to the directors; the servant should not be above his master."

If the miners of Devon after the decision of the meeting still hold out, of course they are perfectly at liberty to do so, for with the company's large stock of unsaleable produce of one mineral, whilst the other, that of copper ores, leaves such a serious loss at present low prices, it is quite evident the company will not be losers by the continued cessation of operations, but, on the other hand, considerable gainers; whilst it is to the interest of the Duke of Bedford as the lord of the soil to see the company withhold the sale of copper ores at these ruinous prices, as (and no doubt it will be the case) his royalty will be much increased by considerably better prices when the European peace, now not distant it is hoped, is accomplished. It should, perhaps, be mentioned that the meeting on Wednesday lasted some three hours, and in consequence of the prolonged discussion Lord Hamilton, Messrs. Venables, Lovering, Chesman, Roberts, Resarth, Nunn, and other shareholders who were in favour of supporting the board of directors, were obliged to leave previous to the vote being taken on the question of 12-months pay, otherwise the show of hands would have been thus much increased in favour of the board's report and action.

ALDERLEY EDGE MINES.—The liquidator of the company which had for so many years successfully worked these mines (up to January, 1876, dividends to the amount of 12½. 11s. 8d. had been returned upon each 100. share) has, as will be seen from the advertisement in another column, directed the whole of the mining plant to be sold by auction by Mr. Broadhurst in 283 lots on Wednesday and Thursday next. The sale will include the whole of the implements and fixtures of the smithy, assay office, drying-house yard, engine-house, grinding-houses, boiler-houses, leadworks, machine-house, joiners-shop, cobalt-house and yard, board-room and office,

&c. That the depressed state of the metal trades has prevented the continuance of dividends cannot be doubted, yet it is to be regretted that a working plant which has been got together with so much care should be broken up and sold, although upon the revival of trade the property will, in the ordinary course of things, be reworked, and probably prove as remunerative as before.

Meetings of Public Companies.

SOUTH AURORA CONSOLIDATED MINING COMPANY.

The ordinary general meeting of shareholders was held at the Cannon-street Hotel yesterday (Friday).

Mr. H. W. SPARRATT in the chair.

Mr. C. CADOGAN (the secretary) read the notice convening the meeting. The report and accounts were taken as read.

The CHAIRMAN said: As they had some considerable business to transact, he would not take up much of their time by a long speech. He felt that the circular dated April 12, which had been sent to the shareholders, went so fully into the matter of the company's business that it would be useless for him at that moment to go over the matters which would come before them at the extraordinary meeting. He would, with the permission of the shareholders, at once turn to the accounts. They had expended 57034. 10s. 1d. in the following manner:—To the Olmetta Company 21822. 2s. 7d., to the Lama Company 25322. 6s. 4d. (these were the two Corsican properties), and 9881. 1s. 2d. on the Aberbeg Colliery Company. These were the details of the gross amount of 57034. 10s. 1d. On the other side, the shareholders would find that the directors' fees were unpaid to the extent of 1661. 13s. 4d., and there were salaries unpaid to the extent of 367. The surplus account included interest on the loans and investments 1754., the details of which he would give if any shareholder should think it desirable that he should do so. With regard to the credit side of the accounts, they had certain securities from the Olmetta and Lama Companies, but they were not sufficient, to the extent of 7301. 8s. 3d. in the one case, and 3322. 6s. 4d. in the other. At present this company only had acknowledgements for these amounts, but the payments would doubtless be made in due course. There had been no change in the investments since the last meeting. With regard to the Eberhardt Tunnel, Mr. Applegarth would at the proper time say a few words upon that matter. A certain sum of money had been paid to the Eberhardt Company, and when their tunnel pierces the South Aurora property this company would have to make another payment, but that could not be for some time to come. Then, with regard to the profit and loss account, the disbursements at the mine and the mill amounted to 8571. 8s. 10d. Seeing that the company had done nothing there for some years, the directors looked upon that item with great displeasure; but it could not be helped. The insurance, amounting to 2051., had, by the advice of Dr. Goodfellow, been discontinued, as the company had not the funds to spare, and there was nothing likely to take fire, unless by the act of an incendiary (A SHAREHOLDER: What have they got to burn?) The buildings were constructed of wood, but there was nothing likely to be burnt. The Government taxes—1631.—they had to pay whether they liked it or not. There was an item of 3551. for the watchman, at which the shareholders might be astonished; but he believed the district in which the mine was situated a man could not get his boots cleaned under 5s.; so that was in reality not such a large salary as it appeared to be. Dr. Goodfellow merely charged travelling expenses, although he had to buy and sell the stores. The salaries and wages amounted to 6901. 14s. 10d., including the secretary, clerks, housekeeper, rent, and general office expenses. (A SHAREHOLDER: Are they paid?) They were practically paid; there was only 351. outstanding, as the secretary had not drawn the whole of his salary, leaving the rest for better times. The general expenses, including the printing, stationery, &c., amounted to 2841. 13s. 3d. With those few remarks he would move the adoption of the report and accounts, but he would, before putting the motion, be happy to reply to any questions which shareholders might put.—Mr. TOWSE seconded the motion.

Mr. WALKER considered the expenses of the management excessive. It appeared to him that 25001. had been spent in the London management in a period of 14 months, or very nearly that amount—(hear, hear)—and he thought in a company like this, where the shareholders had received nothing for years past, that the expenditure of such a large sum of money was extravagant in the extreme. (Hear, hear.) He thought the whole of the office expense should not amount to more than 15001., including the secretary's expenses, until the shareholders were getting something for their investment. Then he thought 501. each would be sufficient for the directors for the present. (Hear, hear.)

Mr. CARPENTER asked how much capital the company had when it was started a few years ago?—The CHAIRMAN replied 32,0001.

Mr. CARPENTER said it seemed to him that at the rate they were going on they would soon have nothing at all. They had very little now (Mr. WALKER: 1301.) He thought it was a monstrous thing that they were to be called together to sanction on this sort of accounts every half year. (Hear, hear.)

Mr. BRUTON asked the sum of 30. 0d. on the debit side of the balance-sheet was owing by the company?

The CHAIRMAN, in reply, said that was a sum borrowed by the company. Mr. WALKER moved as an amendment that the report and accounts should be received but not passed, as he considered the figures were very unsatisfactory, before talking about the reconstruction of the company it would have to be shown that they would get anything by reconstruction.

Mr. CARPENTER seconded the amendment.

Mr. HILL thought the directors ought to resign *en masse*. (Hear, hear.)

Mr. C. BERGTHELL (a director): Hear, hear.

Mr. BRUTON complained that the auditor had not given a proper report; but the Chairman pointed out that the auditor had certified the correctness of the accounts in the usual way.

After a few other remarks of a similar character,

Mr. LANDAU said he was exceedingly sorry to hear Mr. Bergtheill say "Hear, hear" to the proposition that the directors should resign *en masse*. It seemed to him that the directors wished to get rid of their responsibility. The case of the company seemed to him like that of the Irish gentleman who went on to the Continent, and changed a sovereign first into French money, and then into German, Russian, and so on; and when he returned to England he changed what was the sovereign when he started and found he had only fourpence. (Hear, hear.) If something was not done they would soon be without even the fourpence. He thought the directors should do their best for the shareholders, and wait for a little more prosperous times before they reconstructed the company.

Mr. WALKER asked, in the event of the reconstruction scheme being carried out, how the dissenting shareholders would be treated?

The CHAIRMAN, in reply to the questions which had been put, reminded the shareholders that the directors were more largely interested in the company than the majority of the proprietors, and he complained of the "bullying" way (to use the expression in a gentlemanly manner) in which many of the questions had been put. He had, he thought, fully explained the various items in the accounts, and he did not believe any very material reduction, beyond that which had lately taken place, could be made in the expenses in London. The secretary's salary was only about 2001. a year now, and he did not think the company could be well served at a less cost. Then the directors had been charged with concealment; but he pointed out that the fullest information had been furnished respecting every property in which they were interested, and they had done nothing but had not been approved of by the directors. They spent 15,0001. on the South Aurora property, and the shareholders decided that they should spend no more until their neighbours had gone down and explored the ground for them; and he had no doubt whatever, from what he had heard from Captain Drake, that Eberhardt property would find a considerable quantity of ore in their workings; and he was not disinclined to think that South Aurora would also turn out to be a valuable property. Then, with regard to the Corsican Mines, the fullest information had been given to the shareholders, upon whose advice the directors had acted. He dared anyone to impugn the *bona fides* of the directors, and he asked whether any of the shareholders thought that they would get men for 1001. to coquet such a position as they had.

Mr. BRUTON said it was not the *bona fides* but the judgment of the directors which had been questioned.

The CHAIRMAN, continuing, said the Gilbert and Chaudière property was turning out gold every month, and some of the highest authorities had reported most favourably upon its prospects. The matter of the Aberbeg Colliery Company was a *quid pro quo*, but the shareholders would soon have an opportunity of judging whether the directors had done right or wrong. Of the 30,0001. with which the company started, they had spent 14,0001. or 15,0001. on the Corsican properties. These had recently been surveyed by the representative of the French Government (without any cost to the company), and the directors were assured they would have the definitive concession in a very short time. The directors could not take away any of the ore until the concession was granted; but directly that is done there would be a large amount of ore to take away, which would go towards recouping them for their expenditure on the mines. (Hear, hear.)

A SHAREHOLDER: What ore is it?—The CHAIRMAN: It is copper ore.

A SHAREHOLDER asked if there was any probability of getting a concession for the Lama property?—The CHAIRMAN said he believed there was every probability, but they had held back until they got the Corsican concession. He would also remind the shareholders that a dividend of 30 per cent. was paid one year—which was equal to 5 per cent. on the capital for four years—the profit having been derived from the working of the mill. It was, of course, a speculation, and the directors were certainly not to blame that it had not turned out more satisfactorily.

The directors were quite prepared to resign in favour of any other shareholders; indeed, they would only be too happy to be relieved of their responsibility if it were the wish of the shareholders there should be a change.

Mr. HILL asked if at the time that the company lent 3001. to the Mammoth Copperopolis Company the Chairman was a director of that company?—The CHAIRMAN said he had answered precisely the same question two years ago, and he had stated frankly that he was a director at the time that the loan was made. He was a large shareholder in that company himself. He thought it was a pity to take up these old questions if no object was to be gained by it.

The SOLICITOR, in reply to Mr. Walker, said the Act of Parliament specially provided that the question of the shares of dissentient proprietors should be settled by arbitration.

A SHAREHOLDER remarked that he had never known Mr. Walker to be anything but a dissentient at a meeting. (A laugh.)

Mr. WALKER said the shareholder was labouring under a mistake.

Mr. APPLEGARTH, in reply to a question with respect to the tunnel, said the Eberhardt Company a short time ago received a telegram from Capt. Drake, saying that he had got good ore in the tunnel. He had followed the lead to the east through his tunnel, but there was only a trace of the ore. After driving some 40 or 50 ft. to make a rise, and at the time of the Eberhardt meeting (three weeks ago) he telegraphed to say that he had got into ore in the John Wills north. Within the past few days a letter had been received confirming this, and stating that the ore had gradually risen in value from 84. 0s. and 85 per ton, to 90, 95, and 100, and even to 110; and at the time of writing he was raising ore of the value of between 100 and 110 to the ton. This was certainly a very

Mining Correspondence.

BRITISH MINES.

ABERDAUNANT.—8. Toy, May 29: We have now driven the 15 7 fms. 2 ft. on the course of the lode. During the past few weeks we have blasted down the lode 7 ft. in length, and 3 ft. in width, which is showing spots of lead. The ground is hard, but of a kindly appearance for the production of mineral.

ASHETON.—G. Rickards, May 30: The 50, east of boundary shaft, yields saving work for lead, and 10 cwt. of blende per fathom; the lode is improving, and likely to open up tribute ground. No. 1 pitch, in the back of this level, yields 2 tons of lead and 1 ton of blende per fathom. No. 1 pitch, below the 40, east of Browne's, has greatly improved, and yields at present for 2 fms. long 2 tons of lead and 15 cwt. of blende per fathom. No. 2 pitch, below the 40, east of Browne's, yields 1 ton of lead and 1 ton of blende per fathom. No. 1 pitch, in the back of the 50, east of Maw's, yields 8 cwt. of lead and 10 cwt. of blende per fathom. No. 2 pitch, over the 50, east of Maw's, yields 16 cwt. of lead and 1 ton of blende per fathom. No. 3 pitch, over the 50, east of Maw's, yields 8 cwt. of lead per fathom and 5 cwt. of blende. No. 1 pitch, over the 20, south of Maw's, on the north and south lode, yields at present 2 tons of lead per fathom and 10 cwt. of blende. West Asheton: No. 1 pitch, in the back of the 50, west of boundary shaft, produces 15 cwt. of lead per fathom and 7 cwt. of blende. No. 2 pitch, 1 ton of lead and 15 cwt. of blende. No. 2 pitch, west of the boundary shaft, in the 60, yields 2 tons of lead and 1 ton of blende per fathom. No. 3 pitch, in the back of the 60, west of boundary shaft, yields 2½ tons of lead and 15 cwt. of blende per fathom. No. 4 pitch, in the back of the 60, west of boundary shaft, yields 1½ tons of lead and 15 cwt. of blende per fathom. No. 5 pitch, in the back of the 60, west of boundary shaft, yields 15 cwt. of lead and 25 cwt. of blende per fathom. No. 6 pitch, over the 60, west of boundary, produces 1 ton of lead and 15 cwt. of blende per fathom. The 60 end, west of the boundary shaft, yields 1½ tons of lead and 16 cwt. of blende per fathom. We are raising at present about 90 tons of lead ore per four weeks, besides a considerable quantity of blende in both concerns. The discoveries of ore (a large portion of which is high and dry in upper levels) are more than keeping pace with the raisings, and as the scope on the different lodes is very extensive the prospects of continuing and increasing the returns are substantially good. The improved prospects of these undertakings are very satisfactory.

BAFFYLLIDE.—James Juleff, May 29: In the 112 fm. level end, west of No. 4 shaft, the ground is a little harder than usual, which makes it more spare for driving; however, there is a good leader of ore under the hanging wall of the lode, worth about 9½ per fathom. No. 1 stop, west of No. 4 shaft, is worth 8½ per fathom. In No. 2 stop, west of No. 4 shaft, the lode at present is not of much value; about 4 ft. before the present heading it is worth 7½ per fathom. No. 3 stop, west of No. 4 shaft, continues to be worth 10½ per fathom. There is an excellent piece of ground laid open from No. 3 stop to the end of this level, which is available for stoping.

BLAEN CAELAN.—J. Pell, May 29: The engine-shaft is sunk 29 ft. 6 in. below the 50, very excellent work being done by these men. The cross-cut north has been driven 30 ft., and still is in the lode, with branches of lead, but not to value for stoping. On 8-tuesday being settled down, will put four men at the 30 to drive west towards the engine-shaft. The part of the lode driven upon will be worth 20½ to 30½ per fathom for the width of the level; will continue driving cross-cut north with two men until the north wall is reached. The bottom of a winze whence all the stuff has to be drawn by manual labour necessitates our making the level small. The remainder of the lode will be taken down as soon as winze is communicated with the engine-shaft at the 30. I have found a long length of copper ore standing in the deep adit west of engine-shaft, and am putting in still to break some of it down to dress. The floorings are getting nearly finished, ready for resuming dressing the ore broken in sinking and driving. At the present price of lead it does not seem desirable to stop any of our reserves of ore.

BLUE HILLS.—S. Bennett, P. Bennett, May 25: The Pink lode, in the 80 east end of the engine-shaft, is 2 ft. wide, worth 5½ per fathom. The top lode, in the east end in the same level, is worth from 7½ to 8½ per fathom, and in the west end it is at present small. On the north lode the 30 east end is producing a small quantity of tin, but not of much value. A stop in the bottom of this level is yielding a satisfactory quantity of good tin stuff, worth 12½ per fathom.

BODRILL.—H. Hotchkiss, May 25: The weather has been very wet this last few days, which has caused the water to be rather troublesome in the easternmost shaft, so that I thought it advisable to stop this for a few days until the weather settles. I have put the men to drive east on the No. 1, or first joint, we passed through in the 60 cross cut. In the cross-cut driving south the ground is becoming firmer, but is strongly mixed with spar, and is very congenial for bearing lead ore when the main part of the lode is met with, which I think is still ahead of us. The branch recently cut has an underlie south of about 1 in 6, and from the appearance and character of the ground I should say we may reasonably expect a good lode, and which I hope soon to intersect; I am urging this end on with all speed. The 45 end east is in the lode, and I wrote you that the stopes in this level and the 30 are without change. We have drawn to surface a very nice pile of ore from these stopes. We have put up three gates, and cleared a portion of the debris of the new road; the weather has been rather against this work of late.

—May 28: Our operations, both underground and on surface, are being urged on with all speed. I have no material change to report in any of the respective places of development, except in the stopes in the bottom of the 30 yard level, where we have an improvement for lead ore; the lode is stronger, and the ore raised is perfectly solid.

CAMBRIAN.—Esqair Fraith, Thomas Glanville, May 25: Eastern Shaft: The part of the lode being sunk below the 23 is producing 4 tons of rich copper ore per fathom. It is impossible to say what the lode is composed of on each side of the shaft, but when we have sunk to a sufficient depth for a 36 we shall proceed to cross cut north and south through the lode to see its width and character. In the 23, west of shaft, the part of the lode driving on will yield 1 ton of lead ore per fathom. In the rise above the 23, east of shaft, the lode is worth for lead ore 1 ton per fathom. The stopes in the back of the intermediate level is producing 2 tons of copper ore per fathom.

ESQAIR-HIR.—New Shaft: In driving the adit level west from this point we find a very strong lode, composed of quartz, intermixed with stones of lead ore. About 70 fathoms east of shaft we are driving a cross-cut north to intersect the lode, which we may expect to do at any moment. In conclusion it gives me much pleasure to state that as we proceed in opening out the mine its prospects continue steadily to improve.

CARGOLL.—John Jennings, May 29: Bowyer's Shaft: In the 44 cross cut south we have just passed through another branch of a favourable character, but I am not sure that the lode in the counter level is as rich as the one which has been expected to intersect; however, this branch may only be a portion of the lode, and there is still a quantity of water flowing from the breast of the cross cut I am persuaded that either the counter or the south lode must be near at hand, and will be seen no doubt in a few days more, and where I hope with satisfactory results. The 34 west is still improving; the lode is 20 in. wide. It is strong and masterly, producing splendid stones of lead ore, and having also the elvan in the footwall of the lode; I think there is every chance of a profitable lode as we advance westward. The 34 east on the counter lode is much improved, carrying a leader of lead in the lode of good working, and will pay for driving. In a few fathoms I will find this end a cross-cut is being driven 9 fms. 3 ft. north, and it has intersected a lode 2½ ft. wide, composed of beautiful friable quartz, floukan, mandle, and blende; here we have just commenced to drive east on its course, and from its appearance I am of the opinion that we shall have a good improvement here very soon. The stopes in the back of the 34 west is looking better, and worth 4½ per fathom. The lode in the main adit level west is still large, and of a flookany nature, producing a quantity of mandle, with an intermixture of blende and lead occasionally a kindly lode for the depth.

CLEMENTINE.—J. Roberts, Wm. Bennett, May 29: The lode in the stopes at the deep adit level is of the same value as last week's report—worth 15 cwt. of lead per fathom. We are glad to inform you that the water is now forked down 8 fms. below the 25, and if all goes on right we hope to get the mine in fork to bottom by Monday next, when we shall resume the driving of the bottom levels. We are glad to tell you that the reservoir is now full of water, and we hope that we shall not have any more hindrances for the summer.

COMBARTIN.—T. Harris, T. Comer, May 30: The various points of operation in the mine have changed since last report.

OWMYSTWICH.—May 30: Settling report: Gill's upper level to drive east on the new lode. The lode has again improved, especially in the bottom of the level, and is now worth 12 cwt. of lead ore per fathom. We have about 4 fms. more to drive to get under the winze. A winze to sink in the bottom of Mitchell's level east of cross-cut on the new lode; the lode is 3 ft. wide, and worth 15 cwt. of lead ore per fathom. We hope to get this winze deep enough to communicate by the time Gill's level is in. Mitchell's cross-cut to drive north by the rock drill. Nothing has been met with here worthy of remark during the past month, and the ground remains the same. A stop in the back of Gill's upper level west of winze on the new lode is 3 ft. wide, and worth 1 ton of lead ore per fathom. This stop is up to within 2½ fms. to the bottom of Mitchell's level. A stop over Mitchell's level west on the new lode; the lode is 18 in. wide, and worth 12 cwt. of lead ore per fathom. A stop in the 12 over Mitchell's level on the new lode; the shoot of ore ground here still continues to lengthen eastward, and the lode in the end is 2 ft. wide, and worth quite 15 cwt. of lead ore per fathom. A stop in the bottom of the intermediate level on the new lode; the lode is small, but the branch of ore is very good, producing 12 cwt. of lead ore per fathom. A stop over Level Fawr on the copper lode, yielding 12 cwt. of lead ore per cubic fathom. The stopes in the back of Kingside adit level on Kingside lode and branches will produce 10 cwt. of lead ore per cubic fathom; ground favourable for stoping. A pitch in the back and bottom of the 15 on Kingside lode is worth 1½ tons of lead ore per fathom. A pitch in the back of the 25 over Level Fawr is producing 15 cwt. of lead ore per fathom. A pitch in the back of the 15 on Kingside lode is worth 14 cwt. of lead ore per fathom. We have had some fine showers during the past week, and our ponds are now full, which will give us a good supply of water for some time.

DE BOKKE.—J. Phillips, May 29: The lode at Wilson's shaft, below the 45, continues to look encouraging, and fair progress is being made in sinking. The lode in the 45, driving east, is yielding more water, but without other change. The part of the lode driving upon in the 35 is producing large quantities of spar, with spots of copper and blende. One or two of the stopes are rather improved, but, on the whole, the stuff is not quite so productive as hitherto. The machinery is in good order, and I intend to sample next Tuesday.

DRESEBY CONSOLS.—John Roberts, William Bennetts, May 29: Owen's lode is now well defined and strong, from 2 to 3 ft. wide, and cannot fail to make lead shortly; when we commenced driving it was only about 6 in. wide. We have taken the men from the shallow adit to assist in putting in the tramway in the deep level, which is progressing rapidly. The men on the Gorse heading are also engaged about the tramway. Too much importance cannot be attached to the discovery of the lead in No. 1 at D'resby Mountain, as that is one of our main lodes, and the lead will soon get into this mine, and must considerably enhance its value.

DRESEBY MOUNTAIN.—J. Roberts, W. Bennett, May 29: No. 5 adit is cleared and secured to 5 fms. south of No. 3 shaft, where there is another choke. The stopes in the No. 4 shaft, as we naturally expected, is not so rich as it was when deeper. This augurs well for the No. 5, as if it were richer on the top it might be suspected for a surface bunch; but as it is its value gradually increases in depth, and we may reasonably expect at No. 6 to find the lode as rich as has been reported by the ore workers. We are driving No. 3 adit alongside of the lode; at the last taking down there was a nice leader of lead coming into the end, samples of which Mr. Parry saw when he was down. The lode in No. 1 adit has

considerably improved since last week. The part we are carrying in the end is from 3 to 4 ft. wide, composed of a beautiful gossan, galena, carbonate of lead, and blende. We have broken lumps of solid galena coated with carbonate of lead, equal to the stones taken up by Mr. Parry, from 8 to 10 lbs. weight. It appears as though we were approaching a fine deposit of lead, although it is difficult from its singular character to state definitely its value. The remaining part, from 3 ft. to 4 ft. wide, is the most productive part for blende, and when we shall be in a position to dress the blende we expect to have, both from here and No. 3 adit, good returns of that ore. This level is 20 fms. above No. 2, and 34 fms. above No. 3, and by extending it south we shall obtain 20 fms. or more of backs. The masons are getting on very satisfactorily.

DENBIGHSHIRE CONSOLIDATED.—R. Prince, Abel Francis, May 30: The extension of our 112 east shows improvement in the character of the lode. The rise in the roof of this level has yielded a fair amount of lead ore. In the 112 permanent level west the lode is strong and well defined; the rib of spar laying on the heading side now contains more lead; our prospects here are very encouraging. In the 66 west we commence to-morrow to drive out on the course of the lode west, and judging from appearances you may expect to hear of a great discovery. Parry's Workings: The lead ground has now opened out, and we are of opinion that the soft and productive beds proved in our upper workings have at last come down to the bottom level. The tributaries in No. 1 have struck into a fine course of ore. We expect to send even better news in our next.

DEBENT.—J. Morpeth, May 27: Jeffrey's Shaft, Middle Vein: The 95, 96 fms. east of shaft, continues by the side of the vein. No. 1 stop in the 95 is 6 ft. wide, and yields 18 cwt. of ore per fathom. No. 2 is 4 ft. wide, and worth 15 cwt. of ore per fathom. No. 3 is 4 ft. wide, and worth 15 cwt. of ore per fathom. No. 4 is 1½ ft. wide, and produces 15 cwt. of ore per cubic fathom. No. 5 is 8 ft. wide, and yields 22 cwt. of ore per cubic fathom. The sides at the 95, 96 fms. east of shaft, yields 20 cwt. of ore per cubic fathom. The 95, 138 fms. west of shaft, has further increased in size, and is now 4 ft. wide, composed of limestone, capel, quartz, iron, and lead ore; yielding of the latter 9 cwt. per fathom. No. 1 stop in the back of this level is at present very poor, being 4 ft. wide, and yielding only 5 cwt. of ore per fathom, but will improve again as it extends westward. No. 2 stop is 3 ft. wide, and worth 20 cwt. per fathom. No. 3 stop is 3 ft. wide, and worth 20 cwt. per fathom. No. 4 stop is 4 ft. wide, both coarse and hard, and yields only 8 cwt. of ore per fathom, but will soon be into better ground. No. 5 stopes 4 ft. wide, and yields 18 cwt. of ore per fathom. Sun Vein: The 70 west, though a little harder, is gradually becoming more hopeful; at present the vein is 1 ft. wide, and yields a little saving work. The stopes in the back is 2 ft. wide, and yields 7 cwt. of ore per fathom. The 70 east (9 ft. high) is 3 ft. wide, and worth 19 cwt. of ore per fathom. The stopes in the back, some 3 fms. behind the end, is 2 ft. wide, and produces 18 cwt. of ore per fathom. The stopes under the 40, 448 fms. east of shaft, is 1 ft. wide, and yields 2 cwt. of ore per fathom. As stated in a former report this ground is being cut for the purpose of getting a tramway to the eastern level, and will in the course of eight or ten weeks be completed. Westgarth's Shaft, Middle Vein: The 93, 75 fms. east of shaft, is driving partly on the lode and partly by the side, and is worth for the width of the vein we are carrying, 10 cwt. of ore per fathom. This end is very hard and costly to cut. We have but one stop set in the back of the 74, which is 183 fms. west of shaft, and which is 2 ft. wide, and yields 11 cwt. of ore per fathom, but we hope to see it improve soon. Reservoirs still quite full, and machinery all working very well except at Taylor's, where we are repairing balance hoisting in new trassers.

DUBBY SYKE.—W. Tallentire, May 24: We are now down 3 fms. 4 ft. from the surface, but have not cut through into the rise yet. We are pushing on the work as quickly as possible, so as to get the place ventilated, and commence stoping out the vein for dressing.

EAST VAN.—W. Williams, May 30: Tempest shaft is down 8 fms. below the 55. The 55 west is driven 8½ fms., still producing nice stones of ore at times. When we have driven 9 fms. we shall cross-cut, to prove the width and value of the lode. The 55 east is this month suspended, as the lead has taken a dip into the side of the lode. I have remembered for four men to sink the shaft, in order to have it down to the 70 fms. soon as possible, which will be for four men to sink the shaft.

EAST WHEEL LOVELL.—R. Quentrell, May 21: There is very little alteration at Watford since my last report. There is more water issuing from the 80 cross-cut north, and the lode may be met with at any time. In the additional limits the south lode is a little larger than last reported—now 2 ft. wide, and just the same for tin. In the north shaft the lode is gradually improving as we get deeper; it is now producing some very good work for tin, and is a very promising lode.

ELGAR.—James G. Green, May 29: The engine-shaft has been sunk 3 ft. 6 in. during the past week, which in my opinion is very good progress; next week, with nine men, more may be expected. No lode has been taken down in the 10 during the week. I refer to the ore part, so that I have no change to report.

GAWTON COOPER.—George Rowe, George Rowe, Jun., May 25: The lode in the 82, west of cross-cut, is carried 6 ft. wide, producing sulphur and arsenical mandle, spotted with copper ore. The drive of the 95, east of cross-cut, is on the south side of the lode, carried 7 ft. wide, producing capel, spar, and mandle, mixed with ore. The lode in the winze below the 105 east is carried 9 feet wide, yielding 30½ per fathom. The lode in the stopes, west of winze, is worth 20½ per fathom. The lode in the stopes in the back of the 105 is worth 18½ per fathom. All other points are without change.

GLASGOW CARADON.—Wm. Taylor, W. J. Taylor, May 27: The sinking of Elliott's shaft below the 90 is being pushed on, and fair progress made in favourable ground. In the 90 west the lode has improved, now worth 14½ per fathom, and the ground very favourable. This level east is worth 14½ per fathom. The winze in the bottom of the 78 is worth 12½ per fathom. In the 78 east we have a large kindly lode, but not of much value; ground still rather hard. The 78 west on south lode is worth from 8½ to 10½ per fathom. The midway east continues to look very promising, and we are daily expecting to see it improve. The stopes and pitches throughout the mine are looking very well, varying in value from 18½ to 35½ per fathom. We are getting on with the fixing of the double skip-road in Elliott's shaft, and hope to complete it to the 90 east in a fortnight; and the tramroad from this shaft to floors is also being got on with. All our pitwork and machinery are in good working order, and the mine, on the whole, looking very well; only want a little better price for copper.

GLENROY.—R. Rowe, May 29: The only change in the shaft sinking below the 80 is that the lode is becoming harder, and not quite so big, now 5 ft. wide, and composed of rock and quartz, mixed with blende. The recent rains have given us a nice supply of water for the wheel.

GORREDD AND MERLYN CONSOLS.—Wm. Edwards, May 30: The men are proceeding with the sinking of the shaft in a very satisfactory manner. There is no change to notice in the driving west or in the tributaries' bargain. Dressing-floor: We shall soon have a fair sampling of both lead and blende.

GREAT DYLLIFF.—Evan Evans, May 29: The stopes over the 95, east on Dylliff lode, is set to eight men, at 50s. per fathom and 30s. per ton; worth 14 cwt. per fathom. The driving and stoping at the 20 is set to four men to drive 4½ fms. per fath. at 45s. per fath. and 55s. per ton; worth 15 cwt. per fath. At the 105 east of Llechwedd shaft, we have four men stoping at 8½ per fathom; worth 18 cwt. per fathom. Below the 75 we have two men driving in the end of the stopes at 5½ per fathom; worth about 14 cwt. per fth. Under the 105, east of Bradford shaft, a stopes is set to six men at 3½ s. per fathom. We shall value this next week. We have 15 places set on tribute to 56 men as follows: Four men at 4½ s. per ton, four men at 4½ s., eight men at 5½ s., and 40 men at 8½ s. per ton.

GREAT HOLWAY.—May 28: Level Engine-Shaft, Holway Lode: The driving on the lode in the 80 east is now making fair progress; it is now 3 ft. wide, producing splendid lead and blende ore; should the lode continue improving as it has done lately, we shall soon be in a rich deposit. We have been winding from this point through Roskell's shaft this afternoon, and have amongst the other stuff some fine solid lumps of lead. Roskell's Shaft: We have fixed the receiver and everything connected with the Roanhead boring machine, and hope to start this on Monday. The tramroad from level shaft is now complete. There is no particular change to notice in our operations at the Freehold or Partridge shaft, but our prospects are very good.

GREAT HOLWAY.—The 80 east is worth about 2 tons of lead per fathom.

GREAT RETALLACK.—T. Harris, May 25: I have to-day set the stopes above the 63 east to 10 men, at 3½ per fathom, the month. The lode in the stopes is worth from 3 to 4 tons of good blende per fathom—a very fine lode.

GREAT WHEEL ROAD.—T. F. Hosking, May 29: Very fair progress has been made during the past week in driving on the course of the lode, which has resulted in a decided improvement in the character of the lode—stuff taken therefrom, and from its present appearance we have every reason to expect further improvement in the character of the lode. I have had sample taken from the mandle, which proved very satisfactory, being worth several ounces of silver to the ton, of which we are saving a large quantity at the mouth of the adit. We intend forthwith to take the water out of No. 1 shaft on Budge's lode in order to extend the drive—here, where also we expect good results.

GREEN HURTH.—Wm. Vipond, May 24: The new vein, west of No. 1 cross vein, has changed its bearing so much that it is now going almost north; I think it would be wise to see either what it is like in the limestone above or out to the west, and see if we have not lost the original vein we started with. The sole of the vein, west of No. 1, is yielding 10 cwt. of ore per fathom. The east branch is yielding 8 cwt. of ore per fathom. There is nothing new to report yet from the incline level going south. The working in the sole of adit level is still very much branched with hard stoney rider, yielding I think about 3 tons of ore per fm. at present. The cross-cut, west from north level, continues very hard and slow for driving. The end going north, in No. 3 cross vein, is soft and easy for driving, but yielding no ore. We have finished the delivery of a wagon of ore, 7 tons 4 cwt.

HARWOOD.—W. Tallentire, May 24: North End: There is no change to notice with this working, the beds are still dipping rapidly. Good progress is being made with driving in South End: The men will commence to stop the productive portion of the vein on Monday first, which as it now stands will yield 14 cwt. of lead ore per fm. About 6 blings of lead ore are now ready for sale.

HINGTON DOWN CONSOLS.—T. Richards, May 30: Bailey's Shaft: In the 172 east the lode is, as I anticipated, improving; it has a very fine appearance, containing capel, quartz, mandle, and copper ore, to the value of 18½ per fathom. The stopes in the back of this level maintains its productiveness, and is worth 18½ per fathom. In the 160, west of Nicholas' winze, the lode is exceedingly promising, and will be worth about 6½ cwt. of ore per fathom. The sampling to-morrow will be about 180 tons.

KIT HILL TUNNEL.—H. Bennett, May 30: There is no alteration at either point worthy of remark; large quantities of water still issuing from the end.

LADYWELL.—Arthur Waters, May 30: There is no change worthy of remark here since my report of last week. Our new shaft is being sunk below the adit w. ft. fair speed. We are getting some good ore-stuff towards the next sampling.

LIVINGSTONE CONSOLS.—W. Vivian, May 30: In the 40 fm. level, driving on Wheel Killy lode west from North shaft, the lode is 5 ft. wide, very kindly in appearance, producing good stones of copper ore and tin; driving at 9½ per fathom.

MELLANREAR.—John Gilbert, May 29: No 2 rise in the back of the 50, west of Gundry's shaft, was put up 3 fms. 1 ft. 6 in. last month, and is now about 8½ fms. high; the lode is 5 ft. wide, and worth 5 tons of copper ore per fathom, and some saving work for blende. The 90, west of Gundry's shaft, was driven 4 fms. 0 ft. 3 in. last month; the lode is 4 ft. wide, and producing good stones of ore. The winze in the bottom of the 60, west of Gundry's shaft, was sunk 2 fms. last month; the lode is 4 ft. wide, and worth 4 tons of ore per fathom. Gundry's shaft was sunk 3 fms. 4 ft. 6 in. last month; the lode is 4 ft. wide, and worth 3 tons of ore per fathom. The ground is easy for driving, although it is very wet, and everything about the lode looks promising for further improvement. The 4, west of rise, east of Gundry's shaft, was driven last month 5 fms. 1 ft. 6 in.; the lode has been rather disordered by a sparry crossing, but it is again improved to 5 ft. wide, and worth 5 tons of ore per fathom. The 70, west from Gundry's shaft, was driven 3 fms. 5 ft. 5 in. last month; the lode is 4 ft. wide, and worth 3 tons of ore per fathom;

this level is now nearly under the winze in the bottom of the 60. The 40, west of Gundry's shaft, was driven 3 fms. 0 ft. 6 in. last month; the lode is 3½ ft. wide, and worth 4 tons of ore per fathom. The 40, west of the shaft shaft, was driven 4 fms. 0 ft. 6 in. last month; the lode is 2 ft. wide, and worth ½ ton of ore per fathom. The 50, west of Gundry's shaft, was driven 3 fms. last month; the lode is 3 ft. wide, and worth 1½ ton of ore per fathom, and is also producing a good deal of blende. The rise in the back of the 50, west of Gundry's shaft, was put up 3 fms. 0 ft. 6 in. last month; the lode is 4 ft. wide, and worth 3 tons of ore per fathom. Gundry's shaft was sunk below the 90 1 fm. 5 ft. 9 in. last month; the shaft is now down 10 fms. 1 ft. 3 in. under the 90, and we have about 3 fms. further to sink to get to the depth of the 100 fm. level at the old engine-shaft; the ground continues favourable for sinking, and so far the shaft is clear from any appearance of the lode. The 30 cross-cut, south of Gundry's shaft, was extended 6 fms. 4 ft. last month; the ground in this level is easy for driving, and will stand very well without timbering. The 100, west of skip-shaft, was down 1 fm. 5 ft. 6 in. last month; we have met with some small branches in this end containing mandle and spots of copper ore; these are unusual in the right direction, and will probably make the lode in going westward. The lode over this place in the level above was very small, and nothing to value. All our machinery is working well, and the old engine is now going only seven strokes per minute, which is a great improvement on what it was at this time last year.

MONYDD GORDDU.—J. Green, May 29: In Burnett's shaft sinking has been retarded since Friday, owing to a great influx of water from the lode, which is extraordinarily open and porous. This morning we have again managed to clear the shaft, and sinking is resumed. We have secured the hanging-wall of the junction stopes over the 20 west, and have recommended stoping the back. No other change to notice. Friday next is our setting day, when a full report shall be forwarded.

MORFA DU.—T. Mitchell, May 30: Good progress continues to be made in the driving at the bottom of the level. We have this week met with some lumps of blende in the ground, which we consider to be a favourable indication.

NEW BRONFLOYD.—Thomas Kemp, May 30: No 3 Shaft—North Lode: The 121 end west is holed to the winze from the 110, which has given good ventilation and facilities for stripping the lode to its full width, which work will be proceeded with at once. All other points are without any change calling for remark since my last report. Yesterday the machine kibble hitched in No. 3 shaft, and the chain attached to the wire-rope broke, consequently the kibble fell down the shaft. I am pleased to say that the damage done is not to any great extent, and we shall get repaired as quickly as possible. The parcel of ore (25 tons) sold to Messrs. Sheldon, Bush, and Co., on May 25, realised 17½ ts. per ton.

NEW SOUTH MERLYN.—R. Rowlands, May 30: I have no particular change to notice since my last, but I have been enabled to set a few more tributaries to work.

NORTH LAXEY.—R. Rowe, May 29: I have now come from underground, and regret to say that the lode so favourably reported on last week in the 84 end, driving south, has again become small and poor, the end having come up to a tight bar of ground; I hope to get through it soon. The 98 fm. level stopes are worth 15 cwt. of lead per fathom, and 15 cwt. of blende per fathom. We are pushing the dressing to get another parcel of lead ready for sale as soon as possible.

NORTH TRESCREBBY.—J. Nancarrow, A. Nancarrow, May 29: Doctor's engine shaft is now in full course of sinking; the ground is most congenial for ore, and the men are making good progress. In the 12 east we have a large lode, and yields good stones of ore. The lode in the 13 west is 3 ft. wide, and towards the bottom of the end carries a good leader of ore 1 ft. wide, which seems dipping towards the shaft. The winze below the adit is communicated with the 12 west, and this has been sunk chiefly through ore ground, sometimes yielding 2 tons per fathom. We have commenced stoping the east end of it. The ground in the adit west has improved, and is more favourable for the production of ore. There is nothing new in the tribute department in this part of the mine, but we have two pitches at East Downs, where there are good prospects of silver.

PANDORA.—H. Nottingham, May 29: New Lode: No. 1 stop in the 22 is without change. These men are now engaged winding some of the stuff which has accumulated here.—No. 2 Stop: The same remark now applies to this place, as we have been winding from here most of the week, and have a considerable quantity of stuff yet lying on the mills.—Goddard's Lode: We have sunk the water below the 23, and have resumed the sinking of the two winzes on this lode, which are worth respectively 2 tons and 15 cwt. of lead to a fathom, and about 1 ton of blende to a fathom.—New Lode: We have to-day communicated the winze sinking below the 15 with No. 2 stopes, thus securing us good ventilation for this end of the mine, which was much needed. We shall now be able as the stuff is cleared out of the 23 to resume the driving of that level south, which offers chances of other runs of ore as good as those already passed through.—Surface: We are making good progress on dressing-floors, and keeping them well supplied with stuff. We have had a good deal of showery weather lately, which has given us a considerable supply of water in the reservoirs again, and with the stuff we have broken in addition to the bargains now working I expect to keep the cru-hull full of work in the coming month.

PARRY MOUNTAIN.—T. Mitchell, May 27: We have let the 90 cross-cut south to eight men, for the month, at 14½ s. per fathom; the ground is getting a little easier for driving, and showing better indications—in fact, the forebore is at present looking more promising than we have ever seen it, and we are getting large pieces of sulphur strongly intermixed with copper ore. Seeing the forebore looking so encouraging we have put on two more men (now eight men), in order to push it forward as fast as possible. We have removed the two men from the 90 west to the cross-cut for the present, where the work will be carried on without interruption by the men relieving in the place. The ground in the 90 west is rather stiff, and not yielding quite so well as the 90 east.

PARRY MOUNTAIN.—T. Mitchell, May 30: The 90 south is presenting a very kindly appearance, and as we advance the ground is getting strongly intermixed with sulphur and copper. We sampled to-day 85 tons of copper ore, in two lots.

PATELEY BRIDGE.—C. Williams, May 30: We have not taken down any of the ore portion of the vein in the 30 east and west this week, therefore, I have change to report at these two points; you shall have full value in my next. No 3 stopes and rise in back of the 30 east is continually improving, worth at present 2 tons of lead ore per fathom. No change elsewhere. Machinery working well.

PENHALLS.—S. Bennett, P. Vian, May 25: The lode in the 70 east end is set so productive as reported last week, and at present is worth 7½ per fathom, and the west end on the same section of the lode is also worth about 7½ per fathom. The 60 east end is worth 10½ per fathom. The 55 east on another section of the lode is worth 8½ per fathom. Elsewhere there is not much change to notice.

PENNANT.—May 30: The 113 yard level is improving, and the lode has a well-defined footwall; this will apply also to the same level west. I am daily expecting to cut something good here, the water continuing to flow from the forebore of the levels, indicating a run of open ground before us; this does not interfere with our other operations, as the engine manages it capably. The 8½ yard west is in a most congenial lode. In the back of the 50 east the stopes look well, and we are turning out therefrom a good supply of mandle. In the back of the 60 the stopes are turning out some capital carbonate and good stones of lead ore, and seems to be improving for lead daily. Dressing is going on regularly, and we continue to deliver supplies from the floors to the station.

PLYMIMON.—J. Garland, May 30: Fair progress is being made in sinking the new shaft below the 33; the lode is small and poor. The 36, east of Herbert's winze, has been cleared of stuff, and driving resumed; the lode is still split up into branches, producing saving work. There being a good deal of water leaking from the lode to-day, its early improvement may be looked for. The stopes throughout show an improvement on last week's values. No. 2, east of Herbert's winze, being worth 25 cwt. of lead ore per fathom. No. 2, east of same winze, is worth about 15 cwt. of lead ore per fathom. No. 1 stopes, in the sole of the 24, east of Herbert's winze, 15 cwt. of lead ore per fathom; the dam is this level to take up water being now almost completed, a new stopes, east of the last-named, will be started hereafter, which will produce about 1½ ton of lead ore per fathom. Drawing has been hindered during the past week by a breakage to our wire rope, which has been repaired for the time, but we shall require a rope soon. Dressing of ore is being kept on steadily, and the machinery has been made towards another sampling. The machinery throughout is in fair working order, with a good supply of water.

PRINCE OF WALES

[illegible]

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The Mining Market: Prices of Metals, Ores, &c.

METAL MARKET—LONDON, MAY 31, 1878.

IRON.	£ s. d.	£ s. d.
Fig. 600, f.o.b. Clyde.	2 9 11	
" Scotch, f.o.b. Wain.	2 6 5	5 0
" Bar, Welsh, f.o.b. Wain.	2 6 5	5 0
" " In London.	5 15 0	
" " Stafford.	6 15 0	7 10 0
" " In Tyne or Tees.	5 10 0	6 15 0
" Swedish, London.	9 10 0	
" Rals, Welsh, at works.	4 17 6	5 0 0
" Sheets, Staff., in London	8 5 0	8 10 0
" Plates, ship., in London	6 10 0	6 17 6
" Hoops, Staff., in London	7 15 0	8 0 0
" Nail rods, Staff., in Lon.	6 10 0	7 0 0
STEEL.		
English, spring	13 10 0	19 0 0
" cast	8 0 0	10 40 0
Swedish, keg. ball.	15 0 0	
" " fag. ball.	15 0 0	
LEAD.		
English, pig, common	16 15 0	
" " L.B.	17 0 0	
" " W.B.	17 10 0	
" sheet and bar.	18 0 0	
" pipe	18 10 0	
" red	19 15 0	
" white	19 10 0	20 10 0
" patent shot	22 0 0	22 10 0
Spanish	16 7 6	16 10 0
NICKEL.		
Metal, per cwt.	18 0 0	20 0 0
Ore, 10 per cent. per ton.	24 0 0	25 0 0
QUICKSILVER.		
Flasks of 75 lbs., ware.	7 0 0	
SPELTER.		
English, 17 12 6		
Swedish	21 0 0	
Sheet zinc	22 0 0	23 0 0

* At the works, 1s. to 1s. 6d. per box less for ordinary; 10s. per ton less for Canada; 1X 6s. per box more than 10 quoted above, and add 6s. for each X. Tern-plates 2s. per box below tin-plates of similar brands.

REMARKS.—To correctly estimate the value of a change in the position of a market it is necessary to ascertain its nature and probable effects, and especially as to whether it is sound, serviceable, and durable, or unsound, mischievous, and transient. As one or two metals have recently undergone some change, it is advisable to give the subject a little consideration, and to examine the reason or excuse, as the case may be, for demanding higher prices, because if it is proved that a genuine reason exists buyers should not oppose it, but if found to be only a sham excuse they should give it their utmost and determined opposition. Now, if the change spring either from an increase in consumption or in exports, or arises from a falling off in the supplies, then it is evident that a certain and positive improvement has commenced; but, on the contrary, if actual stocks show no sensible diminution, and the demand for shipment and consumption remains unmoved, then it surely must emanate from some foreign and totally different cause, and one which may not only prove questionable, but destructive to itself, as any deviation or wandering from established principles invariably involves risk, but what is of far greater consequence, injurious to the interests of innocent traders, whose trade becomes temporarily and adversely affected whenever any extraneous influences are in operation, and jeopardise in proportion to the magnitude and extent of any rash and hasty transactions to which a few thoughtless and reckless adventurers may happen to have committed themselves. The usual monthly stocks will be published to-morrow, and the trade will then be able to judge whether the advances in copper and tin are justified or not, and we would impress upon our readers the necessity of looking closely, if not almost confining themselves, to actual stocks. Our reason for saying this will be explained on another occasion.

There can scarcely be two opinions in regard to the importance and desirability of protecting legitimate business against undue interference or speculative influence at a time when our markets are so particularly sensitive; and it will, doubtless, be considered a cause for regret that a speculative element is now at work in our markets, and may do them a great deal of harm if indulged in too long or beyond reasonable limits, for legitimate trade is still unimproved, and speculation unsupported is very objectionable and dangerous. It creates disturbances which perhaps cannot afterwards be easily remedied, and for a time throws into disorder all the methodical plans and arrangements of regular shippers and consumers. Premature and immoderate speculation, however, can never be sustained for any length of time, and more often than not terminates in utter failure. It is for the market part of the country, and at the present time has little more to recommend it than the mere hopeful expectations of interested operators; in fact, there is nothing real about it, and the inevitable reaction must soon follow. Commerce is in much too delicate a state to admit of any violent treatment, and the tension is still so very severe that interruptions will most decidedly postpone the general resuscitation. Sudden changes are injudicious, and only tend to unsettle the markets, and altogether misrepresent and give a false appearance to things which, sooner or later, become glaringly manifest. The characteristic feature in the City this time is anything but satisfactory and promising, chiefly tending, as it does, towards speculation and gambling transactions, to the injury and stoppage of legitimate trade, and until the excitement has subsided there will probably be but little doing with regular houses, for there is a poor chance of getting the British public or shippers and merchants to pay dearer prices yet awhile, as consumers generally are in much too poor a condition to launch out, and they will have to dispense with various articles some time longer if they cannot be bought cheaply. If buyers, as we imagine, are quite unequal to the occasion, they should abstain from any participation in the present movement, and speculators would then be obliged to turn round upon one another and get out the best way they could. A palpable mistake has evidently been made in starting prematurely, for there is no solidity in trade, and not the slightest indication of an improved demand in general business, either here, on the Continent, in India, or America. Besides, the most unmistakable sign of the times is that iron, the leading metal of the country, shows no vitality, and not a favourable change is perceptible in this metal, which may be considered the pioneer of other metals, will there be anything permanent or substantial, and those best capable of forming a calm and unbiased opinion do not view immediate prospects favourably.

COPPER.—A good stroke of business has just been effected by some of the importers by easing themselves of superincumbent stocks, and thereby considerably improving their position. The recent prevailing excitement among speculators to buy anything and everything, good or bad, was not an opportunity to be lost sight of, and importers wisely availed themselves of the chance to turn it to profitable account. The affair was cleverly managed, and will prove an undeniable advantage to them if they use it properly. In the first place, they have greatly relieved themselves of accumulating and burdensome responsibility; secondly, they have realised an enhanced value for their copper; thirdly, they have drawn in additional numbers to take an interest in maintaining prices; and, fourthly, they have cleared the way for future supplies. But they should not stop short here, and consider they have done enough: to perfect their work they must continue to feed all legitimate buyers, and not refuse to sell at current rates to smelters and manufacturers, for if they do they will surrender all the points they have recently gained, and the course will be free to speculators, and they will manipulate the market to their own advantage, while importers are quietly resting, and holding aloof. Sales should now be made freely, and holders should not be too exacting.

It has been asked what are the probabilities of the rise being maintained, and it is also asked how about Rogers' price of 60l. for Chili bars? Well, at the moment it looks as if the price would be maintained, and Rogers' price consequently unapproachable, but for all that we shall not abandon Rogers, for their price may be coming sooner, perhaps, than many expect, neither shall we remain indifferent to the great service which they rendered to the trade by their famous circular. We have it from undoubted authority that had the spirit not occurred just at the identical moment it happened to take place that not only would the price of Chili bars have reached to 60l. but perhaps to 55l., certain financial arrangements involving additional margins being required speedily, which, if not forthcoming—and there were serious apprehensions that they could not be provided—would have necessitated forced sales, and driven the price down rapidly, but speculation coming to the rescue saved the market from a severe fall, and considering the price was quoted 60l. 10s., Rogers were more correct in their estimation of the market than many others, who now chuckle because the quotation stopped short at 60l. 10s., or within an ace of 60l.

In regard to the maintenance of prices, it is quite possible that those manufacturers who have allowed themselves to run very low of stock may have to replenish at full rates, but they will probably be rare instances, as bona fide trade keeps so extremely dull, and work is not particularly pressing. The Birmingham consumers are said to be fairly supplied, and no additional requirements will be needed. India is also supplied, and there will be little bought for these markets. The Continent is anything but in a flourishing state, nor is a mood to pay higher prices.

Holders must, therefore, take into account the small demand that is likely to

a public sale of Wallaroo is announced, and not unlikely it may be accompanied with one of Brazil. Chili bars hold an enviable position compared with that of Australia, and sellers would gladly realise at a corresponding advance, but at present it seems impracticable. Of course, it is not in the power of anyone to say to what an unreasonable extent speculation may drive a market. When once a speculation sets in there is sometimes no limit to it, and speculation may be followed up till it becomes rampant. We trust this will not be the case. The market is sufficiently inflated already, and to carry it beyond present rates would only mean a greater fall hereafter. Those who are out of copper should leave it alone, and not go in upon a full rise. Fluctuations may be looked for before long, as prices cannot be maintained an upward course uninterruptedly yet awhile; there is not sufficient strength in any of the markets to allow of any material change, and copper is no better than other metals.

IRON.—Whenever there is a resumption of general business the improvement will first show itself in this market, and those who wish to act cautiously and safely should look to the demand for iron not in any one particular branch of the trade, because that might only mislead. Take Scotch pigs, for instance; there is always, more or less, a little speculation going on in them; but, although the Scotch prices may be quoted one week higher than another, that is no criterion of improvement, unless deliveries are increasing. The action of speculators often affects quotations, and, therefore, deeper penetration than the mere price of the day is needed; in fact, the orders for manufactured iron would prove a greater guide than, perhaps, those of pigs, for if manufactured is in demand pigs must also necessarily be so too. As yet, however, we fail to discover any hopeful grounds of improvement, and makers are willing sellers at prices as low as any previously named, but buyers decline to purchase beyond actual requirements, which are still extremely limited; and, further than this, although sellers would not object to sell a little forward at current rates, buyers still abstain from making contracts. The shipping trade is anything but good, and the Indian monsoon coming on will rather check shipments to the East. The buyers cannot be stimulated to give higher prices, and they have yet to recover from most trying and difficult times before they can order freely or largely; besides, there is a serious drawback to any rise in the price of English iron which cannot be ignored, and as long as Belgium continues to supply cheaper than us there is no chance whatever of our ironmasters getting their books well filled with orders to enable us to establish higher prices. The uncertainty of the trade forbids any sanguine expectations being formed, and it will, probably, be months before any satisfactory change ensues. The market for this metal has kept in the same monotonous and distressing condition during the past week as has been the case for some time back. Prices generally have remained without alteration, in some few instances a little advance having taken place, while in others sellers have given way to meet merchants in their limits. The demand does not improve, therefore it is almost impossible for sellers to quote higher, as it is impossible for buyers to purchase iron at a higher rate than their indentors' limits will allow—it only causes orders to be returned unexecuted, with every probability of their being placed elsewhere in other countries, and Belgium, consequently, prospers with orders rejected by our own works.

The returns from the various producing districts are very discouraging to all the members of the trade, whether buyer or seller, employers or employed, it matters not, they are all reported to be suffering considerably from the great depression in the markets. To improve the trade it is necessary that every member should work in the same way, and it is impossible for the leading members to trade to keep in a satisfactory condition if the leading members will persist in merely seeing what profit they can make out of their transactions, and being perfectly regardless as to the welfare of others. The markets at Leeds are said to be in a most languid state, and as showing no appearance for some time to come of any material improvement. As has been the case for some time past, short time at most of the works continues to rule, all being ready with their complaints of dullness and scarcity of orders. Prices continue very low, yet apparently too high to permit buyers to place orders on satisfactory terms. At South Durham the trade is said to be in a most sluggish condition, and the demand, especially in pig iron, which is reported as being most wretched. The demand has been exceedingly limited, and sales which have taken place have been carried through at a very low figure. No. 3 has been quoted down to 38s. per ton, but orders are stated to have been executed at a lower figure than this. No. 4 forge iron is quoted at about 37s. 6d., with little or no business being transacted.

The manufactured trade remains stagnant, showing no signs whatever of improvement, prices remaining at about 6s. 2s. 6d. for ship plates, 7s. 15s. for boiler plates, and 8s. 10s. for common bars, and angles quoted at 8s. 15s. 6d. per ton. The Sheffield markets are reported as being a very dull one, and the demand for the works (being altogether out of employment, while at others short time only is being employed, and the men consequently are said to be suffering great distress. Although a large attendance assembled at the weekly meeting of the South Staffordshire and East Worcestershire Iron trade at Birmingham last week business was very slack, and in spite of the meeting keeping open for over two hours, very few orders were placed during that time. The enquiry for sheets was said to have improved slightly, but few transactions took place. Best marked bars are still quoted at 8s. 10s. per ton, sellers keeping very firm to this price. Although business is very dull, a shade below that figure for a good specification would not likely be rejected. Hot blast pig iron is still obtainable at 4s. 7s. 6d. per ton, cold blast at 5s., and cinder pigs from 2s. 5s. to 2s. 7s. 6d. per ton, but at these low prices very little business is reported as having taken place. Great dullness prevails over the Newcastle markets. It was thought some time back that the trade could not become in a more distressing state, and prices lower than they were then; nevertheless, lower rates have and are being accepted, and the demand, if anything, becomes more slack. The reports from Barrow-in-Furness are also very discouraging to all interested in the trade, figures are very low; for instance, Bessemer Nos. 1, 2, and 3, are said to have been sold at under 60s. per ton, and No. 3 figure is saleable at 57s. per ton, these being the lowest figures touched for some years past. Prices are so low now that I think it impossible for them to drop further. We are glad, however, to see that the returns show a slight decrease in the stocks, and it is stated that no reduction has been made in the output of the furnaces. Iron ore remains steady, masters keeping very firm in their quotations.

The French markets are stated as remaining in a very feeble condition, very few transactions having taken place, such being merely those to meet immediate requirements, and have been carried out at very low rates. The mail from New York of the 15th ult. shows no new feature of the trade in that country, but, like its predecessors, is full of complaints as regards the dull and monotonous condition in which business remains, prices generally keeping without alteration, but in some cases becoming somewhat easier. No. 1 X is quoted at 115 50 to 117; No. 2 X, 115 50 to 116; and forge, 115 to 115 50; No. 1 X, Lehigh, 118 to 120; and No. 2 X, ditto, 117 to 119. The market is very dull for Scotch, and prices show a downward tendency: 52s. for Eglinton, 53s. for Glenargue, and Coltness is obtainable at 52s. Business in scrap is very dull, and at 20s. to 21s. for No. 1 wrought iron yard, and 15s. to 15s. 6d. for cast. A limited amount of business done in rail at 14s. to 15s., and old at 11s. A moderate demand exists for manufactured, though little business is carried through, and prices remain without any alteration. Scotch pig-iron at Glasgow was very dull at the latter end of last week, and prices low; the lowest point being touched was 45s. 11d., but business was chiefly done at 49s. 15d. for prompt cash. At the beginning of this week, however, a decidedly better tone, but chiefly speculative, was observable, the market beginning at 49s. 24d., and gradually working up to 49s. 9d. for prompt cash, and 49s. 6d. to 49s. 8d. one month. The markets now close at 49s. 11d.

SHIPMENTS.

For the week ending May 25, 1878	Tons 10,842
For the week ending May 26, 1877	10,568
Increase	276
Total decrease for 1878	22,122
Imports of Middlesbrough pig-iron into Grangemouth:—	
For the week ending May 26, 1877	Tons 4,892
For the week ending May 25, 1878	5,340
Increase	448
Total decrease for 1878	1,492
FURNACES.	
In blast May 26, 1877	111
In blast May 25, 1878	89

TIN.—The price has been variable this week, and foreign at one time reached 63l.; but a slight relapse occurred, and 62l. 10s. was taken. English is quoted 1l. per ton higher, and remains fairly steady. By Reuter a telegram has been published, dated Adelaide, the 15th ult., stating that according to intelligence received from Tasmania great discoveries of tin have been made in Mount Heemshore, on the west coast, which is expected will rival the celebrated Mount Bischoff. This makes the future position of tin a very doubtful one, and we cannot think that these reports would be made if they were not truthful. There can be no object in the Australians depreciating their own property by circulating false reports of this kind, which they might be sure would seriously affect the value of sales; besides, what they have hitherto said about their production is confirmed by the continued large supplies. They are very unlikely to pour in upon us excessive supplies if there was little to follow, or any serious impediment in the way of reaching it. To imagine that these glowing reports are manufactured merely to induce miners to emigrate to Tasmania is absurd. They may be nearing ground that requires more experienced hands to work it than those at present in the country, but they certainly would not trouble themselves about mines if there were no mining work in prospect; we ought, therefore, to calculate upon regular and increased supplies from Australia, and not continue to question a matter about which there exists ample testimony, simply because it may happen to be unpalatable news. By the mail from New York of the 15th inst. the market was stated to be very quiet but steady.

LEAD.—Unchanged. The market keeps dull and prices easy.

SPELTER.—Easy both for soft and hard; 80 tons of zinc were sold at public auction yesterday at 20l. 2s. 6d. to 20l. 5s.

TIN-PLATES.—In fair request, and makers obtain slightly better prices.

QUICKSILVER has been held for 7l. all the week, and a moderate business has been done.

THE IRON TRADE.—(Griffiths's Weekly Report).—Friday evening. The Glasgow market has been firmer, and the price of G.M.B. improved. This morning the market opened at 49s. 10d. cash, and improved to 49s. 11d. cash, 50s. 1d. a month; large business done. This afternoon the market was slightly easier, closing 49s. 11d. sellers; an advance this week of 10d. a ton. We quote makers: No. 1 iron—Garthrie, 57s. 6d.; Coltness, 61s.; Calder, 57s. 6d.; Langloan, 58s.; Summerlee, 57s.; Monkland, 56s.; f.o.b. Glasgow: Glenargue, 56s. 6d.; Eglinton, 56s. 6d.; f.o.b. Ardrossan: Shotts, 59s.; f.o.b. Leith. The iron trade has not yet recovered itself from the depression caused by the unsettled state of politics in the East of Europe. The usual spring orders from Russia have not arrived, which affects the market in Germany, and in Germany the demand for iron is not so strong as it was in the spring. The Scotch market is improved a little, and the Midlands borough market for Cleveland iron is decidedly firmer. We have no change to report in the value of Staffordshire, Shropshire, or Derbyshire pig-iron. The Lancashire Smelting Company, at Frodingham, will blow in another furnace next week, the stocks here being inadequate to the demand. The Appleby Iron Com-

pany, at Frodingham, hold the largest stock of pigs in the Frodingham district, which are much in demand in South Staffordshire, but this company hold firm, and refused an offer for 1000 tons at Birmingham; on Thursday, under the ex-

change of better prices. The trade in Yorkshire is quiet at most of the works in the neighbourhood of Leeds and Bradford. We have had a quiet week on the London market. The orders entered have been mostly by agents of the leading firms in Staffordshire and Yorkshire, the iron being required for engineering shops and railway companies. Very little has been done this week for export. There are inquiries on the market for steel rails, but buyers still endeavour to force down prices, which prevents the completion of business. A fair business has been done in sheet-iron for galvanising purposes, and, as usual, a large share of the trade in boiler-plates and good bars has been taken by the leading North Staffordshire houses. More business has been done in metals. Tin is better. Straits and Australian are now fetching 63l. Spelter continues weak and drooping, without much change in price. Copper is better—from 1l. 10s. to 2l. improvement in Chili. We have no change to report in the market for tin plates. I.C. coke is still being sold by some of the Welsh houses at lower prices than they can be made for.

THE MINING SHARE MARKET has been rather firmer this week, with a greater disposition to invest in good undertakings. Metals appear to be improving, and with a revival of trade, consequently upon the more peaceable aspect of the Eastern Question, we may hope for a more active business in mines.

The settlement of the fortnightly account this week was more than usually heavy in several prominent stocks.

TIN is decidedly firmer, and the Banca sale on Wednesday realised 39s. 11d., equal to 67s. in London. The quantity sold was 20,100 slabs. Tin mines, therefore, are firmer, though there is little doing in them at present.

Dolcoath are quoted 29 to 31; Carn Brea, 40 to 42; Tincroft, 10 to 12; West Basset, 1 to 1; at the meeting the accounts showed a loss of 362l. on the three months' working. The copper ores sold realised 101l.; tin (149 tons), 508l. The costs have been charged up to May for labour, and to March for merchants' bills. The debt on the mine is now 22,567l., including an over-draft at the bankers' of 18,048l. A call of 6s. 8d. per share (2000l.) was made towards it. The stopes throughout the mine are reported worth 10l. per fm. on the average, and the agents hope by practising every economy to pay the costs of the mine even with the present low price of tin. Cook's Kitchen, 1 to 1; Penruthal, 3s. to 5s.; South Condor, 11 to 11; South Croft, 7 to 8. South Frances have advanced to 3, 3 1/2. Wheel Agar, 3 1/2 to 4; Wheel Grenville, 3 1/2 to 3; Wheel Peavor, 6 1/2 to 6 3/4.

COPPER is decidedly firmer, and the general impression is that it will soon rise in price; but there is at present very little doing in shares in copper mines. Devon Great Consols, 2 1/2 to 2 3/4; full particulars of the meeting will be found in another column. Pary Mountain, 8s. to 10s.; the 90 south looks kindly. The sampling is 85 tons of copper ore. Hingston Down, 1 to 1 1/2. Gawton Copper, 1 to 1; at the meeting, held on the 29th, the accounts showed a balance against the mine of 232l. 13s. 11d.; the costs are charged up to March 23. The copper ores sold (February and April) realised 461l. 7s. 7d.; mundic, 181l. 6s. The agent hopes to sell 145 tons of copper this month, and estimates the mundic preparing for market at 300 tons. Mellanar shares have improved to 3 3/4, 3 1/2. South Caradon, 60 to 70; West Seton, 13 to 15; West Tolgus, 58 to 60.

LEAD MINES continue chiefly in demand, and a fair business doing in them. Van, 2 1/2 to 2 3/4; the sale of lead ore this month (400 tons) realised 448l. 5s.; blende (150 tons), 457l. 10s.; total, 4938l. 15s. Roman Gravel, 7 1/2 to 8; the bottom level north of new engine-shaft is in a 10 to 12 ft. wide, yielding good stones of lead ore. South it is worth 1 ton per fathom. The 95 is opening out a good level, worth 2 1/2 tons per fathom. In this end six men, with a machine drill, drove 4 fms. 4 ft. 6 in. in the month; about 2 fms. being the usual distance driven by hand labour. Tankerville, 3 1/2 to 4; the sale of lead (100 tons) realised 1052l. 10s., or 10l. 10s. 6d. per ton. Rookhope, 17s. to 19s.; a very favourable report of the new manager has been issued to the shareholders; he considers, if properly worked, it cannot fail to make profitable returns. In the last three months the costs, including merchants' bills and royalties, were 1100l.; the return (120 tons of lead), 1267l., and it is explained that the same quantity of lead a year ago would have fetched 1560l.

South Darren, 40s. to 42s. 6d.; the lode in the 100 west is worth 10l. per fathom. The 90 and 30l. Winze below the 90, 50l. N. 1 stope in back of 90, 24l.; No. 2, 28l. Stopes in back of 80, 24l. and 10l. The sampling next week will be 40 tons of rich silver-lead ore and 45 to 50 tons of copper ore, worth altogether about 900l. East Van, 4 1/2 to 5; Blaen Caelan, 4 to 5; Bodirid, 1 1/2 to 1 3/4; Donaghish, 17s. 6d. to 20s.; Glenroy, 15s. to 20s.; Glyn, 12s. 6d. to 15s.; Grangwinion, 3 to 3 1/2; Great Laxey, 18 1/2 to 19 1/2; Leadhills, 3 1/2 to 4.

Pateley Bridge, 2 to 2 1/2. West Pateley, 2 to 2 1/2; the lode in the winze sinking below the 50, on the Craven cross, has, the agent writes, "very much improved." Pandora, 15s. to 17s. 6d.; Lallywell, 1 1/2 to 1; Great Holway, 4 1/2 to 5. D'Eresby Mountain, 80 to 100; a great improvement is reported in No. 1 adit, where the lode is 7 ft. wide, 3 to 4 ft. of it being composed of beautiful gossan carbonate of lead, and solid lumps of ore of many pounds weight, leading the agents to suppose they are approaching in the hill a fine deposit of lead. This is on the Fuchus, or Red lode, laid down on the plan lately published in the Mining Journal, and quite distinct from the Gorse lode. D'Eresby Consols, 10 to 12; Owen's lode is opening out in width, and the agents call particular attention to the enhancement of the value of the mine by the discovery in No. 1 level at D'Eresby Consols, which is on one of the principal lodes of D'Eresby Consols. Wye Valley, 1 1/2 to 1 3/4; West Wye Valley, 2 to 3; St. Patrick, 15s. to 20s.; Temple, 4 1/2 to 5; Tyn-y-Fron, 1 1/2 to 1 3/4; West Ashton, 1 1/2 to 1 3/4; West Chiverton, 8 to 10. West Tankerville, 10s. to 15s.; the lead ore (35 tons) realised 364l., or 10l. 5s. per ton.

Derwent, 35s. to 40s.; the returns are about 500l. a month, notwithstanding present very low prices for lead ore. We are informed that Dunn's rock-drilling machine is doing well here, enabling three times the work to be accomplished that could be done by hand labour. In a few months a large extent of additional ground will be available for stopping, when the returns will be much increased.

FOREIGN MINES.—Blue Tet, 3 to 3 1/2; Hultafall, 4 to 5; Chonates, 10s. to 12s. 6d.; Eberhardt and Aurora, 7 1/2 to 8; Flagstaff, 17s. 6d. to 22s. 6d.; Frontino and Bolivia, 1 to 1 1/2; New Zealand Kapanga, 7s. 6d. to 12s. 6d.; Santa Barbara, 22s. 6d. to 25s.; the advices show a profit of 289l. 7s. 4d. for the month of March. The mineral stamped/produced 3302 oits. of gold, valued at 1403l. 7s. costs, 1104l. 19s. 8d. Javali, 6s. to 8s.; New Quebrada, 1 1/2 to 1 3/4; Port Phillip, 10s. to 12s. 6d.; Richmond, 8 1/2 to 9; Don Pedro, 12s. 6d. to 15s.

The Market for Mine Shares on the Stock Exchange has displayed decidedly more animation, although the amount of business done is still far from large, and prices do not show any material improvement. On Wednesday the Lisburne Mines Company declared their usual dividend of 1l. per share, and the North Hendre Company has also declared a dividend of 5s. per share, payable on June 14. Exception has been taken to the observations made last week with regard to the Llanrwst and D'Eresby district, upon the ground that the remarks are made to apply to one mine only—D'Eresby Mountain. The most careful reading and re-reading of the remarks entirely fail to justify the conclusion that any one mine is particularised, and this view is confirmed by the fact that those connected with more than one of the properties besides D'Eresby Mountain have made the same complaint. The reports, however, received from the mines, taken in connection with what has already been done on the mountain and in the neighbourhood, will be ample to enable all concerned to judge of the prospective value of the concerns.

An observation which has just been made in the American press with reference to the United States is equally applicable to this country. At no time in the history of mining enterprise has it been more necessary for all true friends of that great and vital industry, and all legitimate workers in this wide field of labour, to connect down and expose all attempts, by whomsoever made, to convert it into an arena of greedy, reckless speculation, without regard to true values or honest returns. The lessons of the past will not soon be forgotten; and now that capital is ready and willing to co-operate with honest labour, it behoves every man who is interested in mining as a legitimate business to guard it jealously against fraud and deception. It is essential that capitalists should be put on their guard against those who are too ready to mislead the public by extravagant promises which can never be realised. All let the basis upon which promoters assume to do business be established beyond

doubt, and the evidence of the value which they place upon mining property be likely above suspicion. Then, and not till then, will the public properly respond to the invitation to come into that broad attractive field; the labourers of our honest hard working miners be appreciated and rewarded; and the great vital mining interests of the country be established on a permanent, secure, and widening foundation.

Devon Great Consols, 2½ to 3; the meeting held on Wednesday resulted in the adoption of the directors' arrangements by a bare majority on the show of hands; but taking those represented person and proxy, together about 5600, supported the directors' action, and 900 opposed it. All that now remains is for the men to decide whether they will accept terms offered or suffer the mine to be suspended. The question of reducing the number of agents and idlers was not brought forward, probably owing to the large amount of time consumed in discussing the other question; but the matter must not be lost sight of if the mine is to be restored to the dividend paying condition. The suggestion for forming co-operative stores at the Devon Consols Mine, which would be equivalent to raising the men's wages from 3s. per month to 3s. 10s. per month, appears to be attracting some attention, and the letter of a correspondent fully explaining the working of the system, published in the Supplement to day's Journal, will enable the men to judge how far the suggestion will meet their views. Assuming the acceptance of the scheme, it would not be unreasonable for the men to ask from the shareholders a loan of 5 per cent. per annum interest, of 5000 (which could be repaid out of the gains of the mine) to aid the starting of the store; and if this was granted, the whole of the trading could be got into full working order in less than a month. To this the men should certainly turn their attention.

St. John del Rey, 310 to 320; the usual telegram from Morro Velho, dated Rio, May 23, shows the profit for April to have been 6300. Don Pedro North del Rey, ½ to ¾; the clean-up for the first division of May was 800 oits. As to the north ground prospects, Capt. Vivian writes that as far as can be judged there seems to be a large extent of mineral ground standing here, which will, undoubtedly, pay for taking away; of course, some of it will be poor, but to be able to take away the better parts to advantage the whole must be stopped. We have commenced an exploring incline rise to the west, or up-hill from Bowden's cross-cut. This, if we can possibly do so, will be continued to Bryant's level, which we intended to clear out as far as possible. Santa Barbara, 1½ to 1½; during March 332 oits. of gold, worth 14037 7s., were obtained from 1073 tons of ore, and the yield of the mineral being 3.266 oits. per ton. Mr. Hilleke reports that the ore in the mine had been carried on more regularly during March, and that the ore had undergone no alteration calling for special note, except that No. 4 stope had been falling off in quality, but had caused a falling off in the general yield per ton of stone of nearly ½ oit. The work in connection with the pumps was progressing satisfactorily. The quantity of ore raised during the month amounted to 1399 tons. Average quantity of ore raised per borer for the month, 28 6 tons.

Amongst the recent American mining dividends may be mentioned a further distribution by the Consolidated Virginia, whose 45th dividend of 108,000, raising the total dividends paid to 8,101,600, has just been forwarded to the shareholders; and the California Mining Company has just paid its 25th dividend of 516,000, raising the sum total of dividends paid to date to 5,400,000. The Eureka Consolidated Gold Mining Company of Grass Valley, Nevada county, have just declared and paid the 80th dividend, aggregating \$5000, or 25 cents per share on 20,000 shares.

With regard to the development of the Emma, highly encouraging news has been received from a New York correspondent, and will be found elsewhere, and this is fully confirmed by a letter direct from Salt Lake City, whence our old correspondent, Dr. W. Breidemeyer, writes that on the morning of April 23 the Bay City Tunnel made connection with the bottom of the Emma shaft, at a distance of 1700 ft. from the tunnel's mouth. This has thoroughly drained and ventilated the Emma. The men who worked in the Emma suffered considerably from bad air before the connection was made. In the Bay City Tunnel considerable quantities of ore have been stored away, owing to an injunction which has been obtained by Mr. C. W. Bennett upon the same. The principal working forces of the Flagstaff have crossed the entire length of the Nabob Mine, and are working in Day Park, Big Cottonwood. The Flagstaff is 180 ft. deep, ships 100 tons of ore per day, and the present manager intends doubling the force of the mine. Let the English shareholders look out for the future; everyone connected with this mine reaps a harvest except the owners. American Park is the only canyon which shows true fissure veins in the surrounding camps. These fissure veins appear in the sandstone as quartz.

Richmond, 8½ to 9½; the usual weekly telegram from the mine at Eureka states that the week's run was \$75,000, from 1140 tons of ore. The week's produce of the refinery was \$30,000. Eberhardt and Aurora, 7½ to 8; the Eureka Sentinel of May 5 states that the teams had commenced hauling ore from Treasure Hill to the company's mill at Eberhardt. The roads are in excellent order, so that if no delays occur from other causes the mill will start about June 1. The prospect of the mine and tunnel have greatly improved, and the management are much encouraged by the favourable indications.

Colorado United, 2½ to 3½; since the commencement of the year the working results have shown a good profit, and although, owing to the heavy expenditure incurred in improving the property, these profits are not immediately available, it is thought probable that a dividend may be paid before the end of the present year. The latest advice from the bonanza mines state that at Consolidated Virginia the shaft has been shut down for repairs, which it will take 60 days to complete. During that time only the California mill will be kept running on the ore, as the facilities for hoisting ore through the C. and V. will not admit of attempting to run more. In California Mine work has been very much interfered with by the making of some necessary repairs to the hoisting machinery and shaft. This, with the necessity for hoisting enough ore through the C. and V. shaft to keep the Consolidated battery mill running, has caused the shutting off for the month of all the mills except three—the Brunswick, Morgan, and Bacon. The gross yield of these two mines for the quarter ended March 31 was \$10,045,000, and the expenditure \$2,622,000, leaving a balance of \$7,423,000.

The Market for Hydraulic or Gold Washing Shares has been steady, with some few transactions at quoted prices. The news from the various mines represented here continues favourable, as they are all steadily at work, and water plentiful. Blue Tent, 3 to 3½; work is progressing as usual, steady washing being carried on in all the claims, and the canal supplying full quantity of water. Birdseye Creek, ¾ to 1; the agent reports that the Waloupa Tunnel has been extended 105 ft. from first shaft, and that he is now raising second shaft. Washing will be started here as soon as this shaft is up, and good results are looked for. Gold Run, ¾ to 1; the clean up after the run of 30 days yielded \$9000, the remittance was \$3000.

Lead Mines have been much firmer, partly in sympathy with the better tone in other departments, and also to the fact that an improved price has been obtained for the lead sold during the past few days. Van, 21 to 22; the usual monthly report states that the mine is looking well. The sale on Thursday (400 tons lead and 150 tons blende) realised 4938 15s. Grogwinion, 3 to 3½; the prospects at the recent discoveries continue to be of an encouraging character. Wye Valley, 1½ to 2½; good progress making, and mine looking well. West Wy Valley, 2½ to 3½; the deep workings look promising. Caron, 2 to 2½; the lode has been found productive beneath the adit, and prospects have improved. Machinery approaching completion. St. Harmon, 2½ to 3½; good accounts to hand from the mine, and indications of early discoveries still strong. Red Rock, 1½ to 2½; the lode in the bottom and 60 ft. levels is yielding well and prospects capital. South Cwmystwith, 3 to 4; no fresh news.

Pateley Bridge, 2½ to 3½; there is no change reported from the mine. All matters are progressing as usual. The mine is looking well, and the ends on Rake vein maintaining their value. West Pateley, 2 to 2½; an improvement has just taken place in the Craven cross vein, in the drive from the winze under the 56 fm. level.

Subjoined are the closing quotations:—
Aberdeen, ¾ to 1; Carn Breu, 40 to 42½; Devon Great Consols, 2½ to 3; Dolcoath, 30 to 32; East Caradon, ¾ to 1; East Van, 1½ to 2; Glenroy, ¾ to 1; Glyn, ¾ to 1; Great Laxey, 18 to 20; Hington Down, ¾ to 1; Leadhills, 2½ to 3; Marke Valley, ¾ to 1; Parys Mountain, 8s. to 10s.; Pateley Bridge, 1½ to 2; Penrith, 3s. to 5s.; Roman Gravel, 7½ to 8; Rookhope, ¾ to 1; South Cwmystwith, 3 to 4; Tincroft, 10 to 12; Tyn-y-iron, 1½ to 1½; Van, 22 to 23; West Auckland, 1½ to 1½; West Chiverton, 8 to 10; West Pateley, 2 to 2½; West Tankerville, ¾ to 1; Wheel Greenville, 3 to 3½; Almada and Tinto, 3 to 3½; Azule, 3 to 3½; Bideford, ¾ to 1; Blue Tent, 3 to 3½; Cape Copper, 3½ to 4; Cedar Creek, ¾ to 1; Chontales, 1½ to 2; Colorado Terrible, 3 to 3½; Don Pedro, ¾ to 1; Eberhardt and Aurora, 7½ to 8; Flagstaff, 1½ to 1½; Frontino and Bolivia, 1½ to 1½; Hultafall, 3½ to 4½; I. L. 1½ to 1½; Javali, ¾ to 1; Kapanga, ¾ to 1; Last Chance, 1 to 1½; New Quebrada, 1½ to 1½; Oregon (pref.), 4 to 4½; Pastorena, 4s. to 6s.; Pimas Eureka, 2½ to 3; Port Phillip, ¾ to 1; Richmond Consolidated, 8½ to 9½; St. John del Rey, 310 to 320; Sierra Buttes, 1½ to 2½; United Mexican, 2½ to 2½.

COLLIERIES.—There has been some quiet buying of these shares during the week, attention being solely given to the few high-class collieries which are known to be making, or in a position to make, profits in the face of bad trade. There are, however, many collieries which have been seriously inconvenienced during the long period of depression we have witnessed, but which nevertheless have fair prospects of earning reasonable profits in the future. The signs of improvement in the coal and iron trades are growing more marked, especially in those quarters where materials of the higher qualities are produced. Advice from Barrow state that makers of steel and Bessemer iron are busy, more particularly in turning out steel rails and steel plates for shipbuilding purposes. There are signs of improvement in Derbyshire, where the foundries are well employed, and, in fact, all

over the country, with the unfortunate exception of the Lancashire cotton trade. The consumers of fuel are looking forward to better times, and, therefore, to using more coal. South Wales has been busy shipping coal, and the ironworks in the neighbourhood are well supplied with orders. We look forward to South Wales becoming particularly prominent with regard to the coal, iron, and steel trades in the future. Provided with the best of raw materials, and with a very large field of anthracite coal, which for iron smelting purposes favourably competes with charcoal, and with continually increasing railway and dock accommodation, South Wales is peculiarly favourably situated to vie with other industrial centres. Our reports from Chapel House are very favourable. An increased raising of coal is now being obtained from the Park Mine, and it is expected that when the new machinery is completed (which will be in the course of a week or two) the output will at once double, and then rapidly increased to 1000 tons per day. We understand that the general meeting will be held at the colliery next month, when the accounts and reports will be considered the past unfavourable character of the coal, most favourable.

The Ynyscedwyn Company, with collieries and ironworks, near Swansea, will reap the benefit of the improving trade of South Wales, and bids fair to rank amongst the most successful colliery and iron companies of England. The property is a most valuable one, having had over 250,000, spent upon it by its former owners, and the works and machinery are in such perfect order that the production of its special articles can be carried on at a minimum of cost, while their quality ensures a maximum of market prices. This is a concern which may be safely recommended to the attention of the investing public, for the security is such that if all the machinery were broken up and sold as old iron it is stated that the proceeds would exceed the company's capital, while the property can easily yield profits which will admit of 14 per cent. dividends being paid. The shares are 10s. each fully paid, and are at present about par. We hear that satisfactory progress is being made at Alltarn, the shares of which close at 3½ to 4. Llay Hall are quoted 6 to 8. The output here is being much increased, and numerous orders are in hand for bricks and tiles. Chapel House shares are very firm at 3½ to 3½, with a decided tendency to rise. New Sharlston shares are at 3½ to 4½. Thorpa Gawber, 2½ to 3½. Newport Abercarn, 4 to 4½. Cardiff and Swansea, ½ to 1.

With this week's Journal a SUPPLEMENTAL SHEET is given, which contains—Original Correspondence: The Tin Mines of Australia (F. D. Wickham); England and Chile (W. A. Walker); New Quebrada Company (C. Boundy, R. Davie); Richmond Mine; Don Pedro North del Rey (Gold) (J. S. Houston); Gold Mining; Rock-Drills—Competitive Trials (G. Cook, R. H. Elliott); Rock-Drills (Salmon, Barnes, and Co.); Hand-Power Rock-Drills (T. B. Jordan, Son, and Melke); Reminiscences—No. VI.; Lancashire District (J. Roberts); Pateley Bridge; Mining Progress; Novel Feature in Mining Enterprise (G. J. Gray); Co-operative Stores for Mines; the Conference (R. Trevellick); Registration of New Companies—Meetings of Vancouver Coal, Cape Copper, Gawton Copper, Devon Great Consols, Chontales, New Quebrada, Bedford United, Great Western Colliery Companies, &c.

DERWENT.—The returns even at present depressed prices are about 5000 a month. Dunn's rock-boring machine is still working regularly at these mines, and enabling about three times more the distance to be driven than by hand labour. This for the time temporarily increases the costs, because the dead work is being done more rapidly, but ultimately will be a saving, and the 93, east of Westgarth's shaft, will be communicated with the 93, west of Jefferies, in a few months, when about 1500 fms. of ore ground will at this point alone be available for stopping, and from which the returns will be considerably increased. We believe the company has a large balance of working capital, independent of the reserve for the purchase of the freeholds of the mineral.

SOUTH DARREN.—The 100 fm. level, east of winze, is worth 10s. per fathom; the 90 end, 30s. per fathom; the winze below the 90, 50s.; No. 1 stope in this level, 24s.; No. 2 stope, 28s.; No. 1 stope in 80, 24s.; and No. 2 stope, 10s. per fathom. The sampling next week will be 40 tons of rich silver-lead ore, and 45 to 50 tons of good copper ore. The mine is making profits, which will soon be increased.

DENBIGHSHIRE CONSOLIDATED.—The patience exercised by the shareholders in this company seems likely to be now quickly rewarded. In the winze sinking below the 66 west splendid lead is now being raised, and at the other operations great improvement is taking place, so that ere long we may expect to see a considerable demand for the shares. The management is vested in those who have been most persevering in the development of this great property.

NORTH HENDRE (near Mold).—This mine is opening out most satisfactorily. Another lot of 100 tons of ore has been sold to Adam Eytan at 10s. 11s. 6d. per ton since the last sale at Holywell. A second interim dividend has been declared of 5s. per share, payable June 14, which with the 10s. per share paid in March last makes 30 per cent. this year on the paid-up capital.

ROCK-BORING MACHINERY REQUIRED.

THE DIRECTORS OF DEVON GREAT CONSOLS COMPANY (LIMITED) SOLICIT FULL PARTICULARS from the MANUFACTURERS of ROCK-BORING MACHINERY, &c., for SINKING, DRIVING, or STOPPING at the company's mines.

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Exhibition Prize Medal—New South Wales, 1877.

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COPY OF REPORT.

"Sydney Galvanizing Works, Sydney, Oct. 1, 1878."

"DEAR SIR,—I have much pleasure in stating that I have found the tin smelted at the 'Kangaroo' Tin Smelting Works superior to any other Australian smelted tin I have used in my business up to the present time, and in no way inferior but quite equal to the celebrated 'Lamb and Flag' tin. This opinion has been arrived at after several carefully executed practical tests, as well as from metallurgical assays."

"I am, dear Sir, yours faithfully, S. L. BENSUSAN."

Messrs. JOHNSON, MATTHEY, AND CO., the well-known Assayers, report on 24th December, 1875, on a shipment ex Durham, 25 tons of "KANGAROO" TIN, 99.95 per cent. pure tin.

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Sydney, September, 1877. S. L. BENSUSAN.

A PRACTICAL MINE INSPECTOR, who has Surveyed and Reported on Mines in the above places, is prepared to REPORT on MINERAL PROPERTY.
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40 Chapel House, 23 3s. 10 Llay Hall Colliery (offer wanted). 30 Tyn-y-iron, 12 6d.

100 Don Pedro, 14s. 15 New Quebrada. 20 West Mostyn 12 per cent. Deben. (offer wanted).

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Notices to Correspondents.

* Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be kept on receipt; it then forms an accumulating useful work of reference.

MINING JOURNAL VOLUMES WANTED.—Any subscriber possessing duplicates of Vols. I., II., IV. (A.D. 1835, &c.), or of the volumes for 1851, 1852, 18 3, 1856, 1857, 1860, 1861, and willing to dispose of them will oblige by sending particulars of price, condition, &c., to the Editor, Mining Journal Office, 29, Fleet-street.

ELASTIC PUMPS.—I observe among the recent applications for patents that there is one for an elastic pump—that is to say, a pump which raises the water by the compression successively of various portions of a tube by a roller which passes over them. The elastic tube is coiled in the inside of a drum, so that there may be no waste of time in the opening and closing of the pipe. I am aware this arrangement has been suggested before, but should be glad to learn, through the Journal, what particular advantage it is supposed to secure, and whether the repeated opening and closing of the tube does not weaken it?—MECHANIC.

SAFETY-CAGES.—Although almost innumerable inventions have been introduced for preventing the sacrifice of life in case of breakage of ropes none of them appear to be sufficiently simple, cheap, and reliable to secure general adoption. I would, therefore, direct attention to the very simple arrangement of the late Mr. Aytoun, frequently described in the Journal. This is decidedly the most effective yet proposed, and can be made by a mine smith, and applied to the cage at a cost certainly not more than 5s. It has, moreover, the great advantage that it cannot get out of order without the defect being at once seen.—LEVER.

COMPRESSED FUEL.—Can any correspondent inform me whether compressed fuel, in the form of balls about 4 in. diameter, are regularly in the market, and, if so, at what price per ton? I remember being shown a sample, and understood that machinery was about to be erected for producing it on the manufacturing scale. Since that time I have heard nothing about it. That such a form would be well adapted for bearing rough usage in shipping and so forth I do not doubt, and I believe this would compensate for the slightly greater space which it would occupy.

LEAD MINING IN DERBYSHIRE.—"J. R."—The paper shall be published in next week's Journal.

Received.—"Constant Reader" (Bilboa)—"J. W." (Drohozye)—"R. T." (New York); Next week—"Amateur" (Guernsey)—"S. A." (Leith)—"Shareholder" (West Basset)—"Stannium" (Redruth); We believe that the statement as published is quite correct—"Shareholder" (Trebeigh Consols)—"Constant Reader" (York); We should be glad to receive the particulars—"Shareholder" (St. Just Amalgamated)—"D. W."

THE MINING JOURNAL.

Railway and Commercial Gazette.

LONDON, JUNE 1, 1878.

THE INSPECTORS OF MINES' REPORTS.

Having placed before our readers a summary of the reports sent to the Home Secretary by Her Majesty's Inspectors of Mines for 1877, showing the amount of minerals raised, the number of persons employed in and about mines, and the fatal accidents that have taken place in connection with them, a comparison with the previous year in respect to those items brings to light certain facts of a striking character that a mere perusal of last year's working would fail to realise. Not the least interesting portion of the returns is that showing the quantity of coal raised in the United Kingdom, for it clearly explains how little reliance can be placed on the opinions of the ablest men who have made the coal question, and the probable duration of our coal fields, their special study, whilst it does away with the theory that the consumption of coal goes on increasing with the increase of population, as propounded by the late Prof. JEVONS. That eminent writer and authority has stated that every improvement for the economy of labour has resulted in increasing the consumption of coal, and it being the material source of power required for the extension of every great industry it must go on exhausting as the population gets larger, and the extension of manufactures and industrial pursuits goes on. The Select Committee of the House of Commons appear to have come to the same conclusion, for in the report presented in 1873 it is stated that the then consumption of coal for domestic use "is estimated at 1 ton per head of the whole population, absorbing about one-third of the entire production. But it is probable that this rate per head will continue pretty constant, because, although more economical methods of using coal in dwellings may probably be introduced, yet the increasing wealth of the nation will cause coal to be more liberally used for domestic purposes. The future increase of consumption under this head may, therefore, be expected to coincide with the increase of population." The Committee also considered that in some branches of manufacture the limits of a beneficial economy had been reached.

Facts, however, have been against the views of Professor JEVONS and the Committee of the House of Commons, for the rate of increase has been far less rapid than was estimated by either. But the eminent authority alluded to, as well as Sir W. JACKSON and others who have ably expressed their views with respect to the probable duration of our coal fields, based on a certain yearly increase in the consumption, have not taken into consideration the successful efforts that have been made by our manufacturers, machinists, engineers, and ironmasters to reduce the expenditure of fuel to a minimum, no more than they have the utilising of the small coal or dust that only a few years since was to be seen in vast heaps on all our pit banks, and which people would not take away even without any charge whatever. A great change has taken place since then, and the once unprofitable dust or slack is now at many places converted into marketable coke, or sold for different purposes. But in nothing more than in the smelting of iron can there be a more forcible illustration as to how fuel has been economised of late years. In every way, indeed, a great saving has been effected in the consumption of coal, and this is shown by our latest returns, for there is scarcely any difference in the quantity of coal raised in 1877 over that of 1876, the increase in favour of 1877 being only 67,572 tons. However, when comparing the quantities of coal raised in the different districts, we find changes that must be considered as most exceptional. Thus, whilst in one county, where strikes have been rampant, there has been an increase in the tonnage of coal raised, whilst in others, where there has been comparative quietness, the reverse has been the case. It also appears that there has been a decrease in the number of persons employed in and about coal mines in 1877 as compared with 1876, yet the output per man in the former year had increased from 261 to 271 tons. The coal production of the different districts in 1877 is one of the most interesting parts of the reports, and as compared with 1876, is as follows:—

	Tons—1876.	Tons—1877.	Tons.
Northumberland, N. Durham, &c.	14,135,104	13,316,156	decrease 818,948
South Durham, &c.	19,538,055	19,548,343	increase 3,287
Yorkshire (Cleveland)	7,867	8,715	increase 848
North and East Lancashire	8,364,174	8,741,387	increase 377,203
Ireland	1,516,195	1,419,181	decrease 96,994
West Lancashire and North Wales	11,529,339	11,425,743	decrease 103,596
Yorkshire	15,129,516	15,805,285	increase 675,769
North Staffordshire, Cheshire, &c.	5,555,106	5,742,020	increase 186,914
Derby, Leicester, Notts, &c.	1,331,546	1,293,386	decrease 38,160
South Stafford and Worcester	10,000,000	9,500,000	decrease 500,000
Monmouth, &c.	7,121,209	7,086,116	decrease 35,093
South Wales	11,663,447	11,671,730	increase 8,283
Scotland, East	11,667,948	11,452,373	decrease 215,575
Scotland, West	6,997,984	6,867,701	decrease 130,283
Total	134,125,166	131,179,969	

From the above figures it will be seen that the largest increase has been in the great Midland coal field, which embraces Yorkshire, Derbyshire, and Nottinghamshire, where strikes and lock-outs were of frequent occurrence, whilst the largest decrease has been in Northumberland and Durham. The number of lives lost in and about collieries during 1877 was 1208, against 933 in 1876. Of that number 345 persons were killed by explosions, 212 being in the eastern district of Scotland, 42 in North and East Lancashire, and 40 in West Lancashire and North Wales. In the West Riding of Yorkshire, in which the mines are the deepest in the kingdom, and where the explosions have been the most disastrous known in the history of mining, thanks to the discontinuance of blasting and the use of the best safety-lamps, there were only three deaths from explosions, and we have no hesitation in saying that had the same

course been pursued in other districts the fatalities from fire-damp for the year would have been comparatively few. We have still to note the serious loss of life from falls of roof and coal, the number for 1877 having been 448, or one less than in 1876. In these accidents Yorkshire heads the list with 56. Now, persons at all acquainted with mining operations know very well that the great majority of these accidents are really preventable, and that they mostly occur owing to the great eagerness of the men to get the coal without what they consider a waste of time in setting props or sprags. In one instance Mr. WARDELL states that in the Oaks Colliery a deputy found a man with about 8 yards of coal undermined, and only one sprag set, although the rule stated that there should be one sprag for every 2 yards. In another instance, at the Monk Bretton Colliery, in the same district, a deputy found a man with a length of 22 ft. of coal undermined, and only two sprags set. It is owing to such recklessness that so many fatal casualties take place from falls, and for this the men are alone to blame, for although the timber is put within their reach, they will not lose the time by setting it at sufficient distances to ensure their own protection. The other fatal accidents during the year call for no special comment, and they include the loss of 129 lives in shafts, the same as in 1876, the majority having been caused from falling when between the surface and the bottom whilst ascending and descending.

At the mines engaged in the production of ironstone the output was not so large last year as it was in 1876, but this deficit no doubt was made up by other districts where the ore is obtained close to the surface, and so does not come under the Mines Regulation Act, and from which no returns are obtained. There has, however, been a marked decrease in the Cleveland district, no doubt to some extent owing to the demand that has sprung up for hematites for converting into Bessemer steel. In Cumberland it would appear there are but few mines, although the annual quantity of hematite raised there is about the largest in the kingdom, next to it being Lancashire. However, as the actual production of the different counties during the last two years will show the progress or otherwise that has been made we give the returns as follows:—

	Tons—1876.	Tons—1877.
Northumberland, Cumberland, &c.	11,552	8,940
Yorkshire (Cleveland)	6,564,001	6,289,745
North and East Lancashire	135	135
West Lancashire and North Wales	22,204	23,811
Yorkshire	241,114	249,454
Lincolnshire	154,287	122,591
Derbyshire, Notts, &c.	121,379	135,511
North Stafford, &c.	1,868,730	2,183,030
South Staffordshire, &c.	294,842	206,452
Monmouthshire, &c.	142,745	95,442
South Wales	192,297	119,422
Scotland, East	816,873	893,222
Scotland, West	1,710,454	1,723,161
Total	12,169,580	12,014,366

The deaths in the metalliferous mines of Great Britain and Ireland from accidents in 1877 were 97, being 27 more than in the previous year. The largest number was from falls of ground, 13 out of the total of 41 having taken place in the South of England, 10 in Northumberland and Cumberland, and only 1 in Yorkshire. There has been a considerable increase in the production of oil shale, the returns giving 632,656 tons for 1876, and 838,395 tons for 1877. On the other hand, however, there was a falling off in the yield of fire-clay from 2,071,983 tons in 1876 to 1,813,541 tons last year. Taking together the produce of the mines in coal, fire-clay, ironstone, and shale, there was raised a total of 148,989,385 tons in 1876, against 148,846,260 tons in 1877.

INSPECTORS OF MINES, AND THEIR DUTIES.

So much has been said of late by the miners' leaders as to the provisions of the Mines Regulation Act not being carried out, and inferring that the Government Inspectors had not done their duty in various ways, that we are glad to find the statement has been fully refuted by the Inspectors in the reports for the year 1877 sent by them to the Home Secretary. It has been frequently stated by the mining agitators that the Inspectors only visited collieries after a serious accident involving loss of life had taken place, or when they were specially sent for, whilst only last week Mr. MACDONALD gave notice in the House of Commons that in a month he should call attention to the frequency of disasters in mines, and move a resolution declaring that inasmuch as the history of the mining disasters of the past 27 years showed that many of those disasters resulted from negligence, it was expedient that the vigorous enforcement of the provisions of the Mining Acts, or, if they were not sufficient, that the Government should introduce a measure that would be efficient. Now, without going back for 27 years, we feel sure that the provisions of the Act of 1872 are amply sufficient to ensure the safety of the workmen, but, at the same time, those connected with our collieries will agree that no Act of Parliament can be framed that will prevent explosions in mines, for they are too frequently caused by the recklessness of the miners themselves. The Inspectors appear to have been, during the last year at least, most indefatigable in carrying out the provisions of the last Act, and so far from doing comparatively little for the salary received, have done a great deal more work than could be reasonably expected from them. Mr. WARDELL, the Inspector for Yorkshire, states that during the year he had attended 36 inquests, investigated 19 complaints, visited 71 collieries for the purpose of enquiry into accidents, and made 143 promiscuous visits to collieries, and in addition had attended several meetings of boards of examiners for granting certificates of competency to managers, and had travelled upwards of 16,000 miles in the execution of his duties. His assistant, Mr. GERRARD, had made 253 visits to collieries, of which 139 were underground inspections; he was also engaged in 17 inquests, and had travelled upwards of 10,000 miles. The other Inspectors had done nearly as much, yet it is said they have little or nothing to do, and the reports show they are about the hardest worked servants under the Crown, for their duties are not confined to the day, but often keep them night after night. Further comment is unnecessary.

COAL MINING IN BELGIUM.

Although Belgium is a much smaller country than France, she is relatively a more productive one. The population of Belgium is dense, and the Belgians turn their natural resources to the best possible account. Thus it appears that in 1876 Belgium produced 14,329,578 tons of coal, or very nearly as much as was raised in the same year from the soil of France. The consumption of coal in Belgium being much less than the corresponding consumption of coal among the French, Belgium is a coal-exporting country; and a considerable quantity of Belgian coal found its way in 1876, as in former years, to the great French industrial centres. At the same time even Belgian coal mining industry has felt the effects of the intense competition and the severe depression of the times; and Belgium coal had to contend in 1876 and 1877 with rather severe opposition upon the French markets from both German and English coal. But be this as it may, Belgian coal mining industry presents a considerable importance; it reflects credit upon Belgium, and is a proof of the enterprise, industry, and perseverance of her industrial sons.

Of the coal raised annually in Belgium the great bulk is produced by the province of Hainaut. Thus of the 14,329,578 tons of coal extracted from the soil of Belgium in 1876, 10,486,660 tons were produced in the Hainaut alone. Namur is not much of a coal-producing province, the extraction of 1876 not having exceeded 474,975 tons. The province of Liège raised the balance of the extraction of 1876, or 3,367,943 tons. The number of working coal miners employed in Belgium in 1876 was 108,543—in the province of Hainaut, 79,047; in the province of Namur, 3773; and in the province of Liège, 25,723. The average annual wages paid in the Hainaut amounted to 417s. 10d. In the province of Namur, where the number of men employed was comparatively small, the wages paid in 1876 did not exceed 34s. per man per annum. In the province of Liège they amounted to 417s. 8d. per man per annum. The average annual production effected per man was 133 tons in the Hainaut, 125 tons in the province of Namur, and 131 tons in the province of Liège. The rate of production per man was thus lowest in the province of Namur, where the lowest

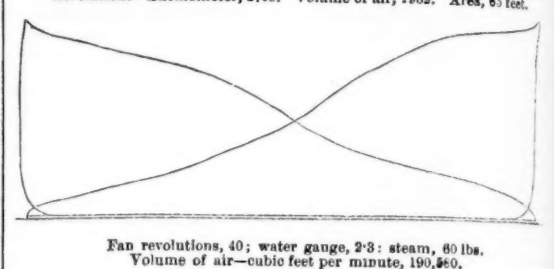
rate of wages prevailed, and it was highest in the Hainaut, where the largest remuneration was given to those employed. A very large amount of steam power has, however, to be employed in the Hainaut for ventilating, draining, and other purposes. The number of horses employed in the Hainaut appears also to be proportionately larger. The result was that while the coal raised in Belgium in 1876 was produced at an average cost of 10s. 8d. per ton that raised in the Hainaut in the same year involved a cost of 10s. 10d. per ton, the corresponding cost in the province of Namur being only 9s. 10d. per ton, and in the province of Liège 10s. 7d. per ton.

Although the coal production effected by Belgium in 1876 presented a very considerable importance, the coal-producing resources of the country were still not fully utilised. Belgian coal mining, like almost every other Belgian industrial pursuit, suffered no doubt in 1876 from the depression which has so long and so persistently affected the commerce and enterprise of Europe. Thus, while Belgium possesses 27 collieries, the whole number in activity in 1876 did not exceed 180. Of these, 92 were in operation in the Hainaut, 21 in the province of Namur, and 67 in the province of Liège. Of the 97 Belgian collieries inactive in 1876, 37 were in the Hainaut, 18 in the province of Namur, and 42 in the province of Liège.

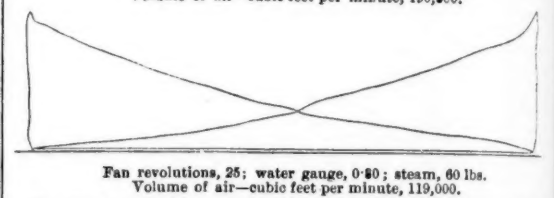
MECHANICAL VENTILATION OF MINES.

There has been recently erected at the Lofthouse Station Colliery—an important and rapidly increasing undertaking, the property of the Leeds and Yorkshire Co-Operative Society—a Guibal Ventilator, the results of which are so satisfactory that we have felt it incumbent on us to reproduce them. The ventilator and engines were erected under the supervision of Mr. D. P. Morison, who has for many years been M. Guibal's representative in this country, and were constructed by Messrs. P. Haggie and Co., Gateshead-on-Tyne. From the results obtained we have extracted the two following diagrams showing the actual duty performed by the engine and that extracted from the air, both being in every sense of the words practical and economical.

GUIBAL VENTILATORS—40 ft. x 12 ft. Engines—30 in. x 30 in. Revolutions—Anemometer, 2708. Volume of air, 1932. Area, 65 feet.



Fan revolutions, 40; water gauge, 2.3; steam, 60 lbs. Volume of air—cubic feet per minute, 190,000.



Fan revolutions, 25; water gauge, 0.40; steam, 60 lbs. Volume of air—cubic feet per minute, 119,000.

The directors of the company have expressed themselves as highly satisfied with the results obtained and have kindly permitted us to use them.

DUTY OF GUIBAL VENTILATING FANS.

Name of Colliery.	Number in printed list.	Ventilator dimensions.		Engine dimensions.		Number of revolutions of fan per minute.	Volume of air raised per minute.	Duty actually performed.
		Diameter, Feet.	Width, Feet.	Diameter, inches.	Stroke, inches.			
Wingate	57	35	12	30	30	Double	403	89,416
Usworth	32	45	12	36	36	"	43	165,000
Newbattle	97	30	10	Com. pound	"	"	43	117,613
Brandon	60	36	12	30	30	"	40	152,729
Clay Cross	74	30	10	24	24	"	56	1,04,040
Harton	101	50	12	42	42	"	40	170,000
Waterloo Main	24	24	8	20	20	Single	68	72,000
Canoeck	102	40	12	36	36	"	25	158,000
Farnley Company	72	20	6	12	18	Double	53	38,900
Garforth	142	16	5	12	18	Single	84	25,000
Mirfield	185	24	8	20	20	"	45	41,000
Conyers Pit	64	24	8	20	20	"	68	38,000
Churwell	182	20	7	18	18	Double	42	30,000
Crossland	151	34	8	20	20	"	41	45,000
Low Moor	92	21	6	18	18	Single	45	35,000
Roundwood	179	36	12	30	30	Double	45	140,000
Oake	161	40	12	30	34	"	40	193,000
Wheldale	73	35	10	27	27	"	44	124,000
Lofthouse Station.	40	12	30	30	"	"	40	190,880

PROTECTION OF COLLIERIES' LIVES.—In the Queen's Bench division on Wednesday, an appeal of some importance with reference to the safety of human life in collieries was decided in favour of the Government Inspector. An information had been laid by Mr. Baker against the owners of a mine for having on June 12, 1877, had their mine in a dangerous state. The danger was that there was a head of water in the mine above the level of the inlet where the men were working, and the Government Inspector required the water to be drained out or the men withdrawn. The mine-owners declared that they were unable to draw the water without draining another mine with a different shaft, which they were trying to acquire. The Inspector urged that as there was imminent danger to life the men should in the meantime be removed, and, as 20 days had elapsed, he therefore pressed for a conviction. The magistrates convicted, and the mine-owners appealed to the Sessions, who decided in their favour, upon the ground of a provision in the statute enabling the magistrates to adjourn the case if it appeared that active measures were being taken to abate the danger. The Inspector applied for and obtained a case stated by the Sessions, on which the question now came before the Court. The Court thought that as there was no appeal against the decision of the Inspector as to the imminence of danger, and the mine-owners had not applied to the Home Secretary against the Inspector's decision, they must take it as conclusive at that point, and, that being so, it appeared that, there being imminence of danger, the men were kept in the mine while measures were being taken to remove the danger, and that, in their opinion, was an offence against the Act. After the lapse of 20 days the mine-owners had gone on working the mine, leaving the men in danger. That being so, the conviction was right, and the Sessions ought not to have set it aside.

THE LEAD TRADE.—Exports for the first four months of—

	1876.	1877.	1878.
Tons	11,067	11,973	11,546
Value	£256,840	£268,621	£232,114
Average	£23	£22	£20

WELSH LEAD.—The total output of the lead mines within the district inspected by Mr. T. F. Evans during 1877 was 32,351 tons, of which 5781 tons were raised in Cardiganshire, whilst Carmarthenshire contributed 1580 tons; Denbighshire, 2756 tons; Pembrokeshire, 3152 tons; Merionethshire, 12 tons; Montgomeryshire, 8006 tons; Shropshire, 90 tons; Shropshire, 6612 tons; and the Isle of Man, 4261 tons. Mr. Evans estimates that the total value of minerals of all kinds raised in his district during 1877 was approximately 1,118,126. Estimating also the costs in labour, materials, and royalty, they amount to 1,285,428, thus showing a loss of 167,302 on all the mines in his district during the year's working. He adds that many of the mines are exceedingly profitable, the loss shown

in the aggregate arising from the unremunerative exploratory operations prosecuted in mines which do not pay the cost of working

INTERNATIONAL STATISTICS OF MINES AND SMELTING WORKS.—We have been favoured by the Board of Trade with a copy of the valuable volume of Mining and Smelting Statistics, just issued by the Central Committee of Statistics for Russia (St. Petersburg: Truké and Fusnot, Maximilianoffski Pérspect), embracing the statistics for a series of years of the mines and smelting works of Great Britain and Ireland, Norway, Sweden, Austria, Hungary, and Germany (the old Zollverein). The information given will be fully referred to in next week's Journal.

REPORT FROM CORNWALL.

May 30.—Instead of speculating concerning a future which affords no feature of certainty, it will be quite as profitable just now if we review the past, and take stock of the present by the aid of the important report which Dr. Foster, the Inspector of Metalliferous Mines for the Western District, has prepared for the past year; and the first thing that strikes us here is the marvellous influence which the low prices which have ruled of late have had in stimulating the production of tin. Whereas in 1875, with an average standard for consumption of 82s., our mines, as distinguished from our stream works, yielded 12,611 statute tons of black tin; in 1877, with an average standard of 65s. 7d., the produce was 13,341 tons. And to this Dr. Foster estimates that there should be added at least 800 tons as the result of the Red River works in the Camborne district, the actual output of the mines in which these works have their real origin being under 6000 tons. In other words, the dressing operations, as carried on at the mines, are so imperfect that a sixth of the tin raised is washed away; we say a sixth, because no one who is practically acquainted with the subject would argue that there is not a considerable quantity of the tin that passes into the Red River which is not recovered at all, but is carried to the sea. Arsenic and arsenical pyrites and blende have shared in the increased production with the tin, but in copper, iron, lead, and manganese there has been a falling off. Thus of copper ore the production in statute tons was 55,583 tons, in iron ore for Cornwall and Devon only 9489 tons, while manganese has fallen to 2496 tons, and lead ore to 2537 tons. Of arsenic 4110 tons were produced, of arsenical pyrites 15,341 tons, and of zinc ore 4920 tons. These figures, it must be borne in mind, represent the results of mining operations, and do not include those of open and surface workings, which would add 599 tons of arsenic in Devon, and 2016 tons of iron ore in Cornwall.

Dr. Foster reports altogether 160 mines in Cornwall for the past year and 40 in Devon, but a few of these, though technically mines in the sense of being underground workings, are not metalliferous, so that the actual number of mines under inspection in the ordinary use of the term was 194. This shows a reduction on the previous year, but even when we deduct from this reduced total those concerns which have a suspended or even a nominal existence, there certainly is no ground for assuming, as the advocates of Tasmanian enterprise have so recently done, that mining in the West is quite dead. This will be better seen if we quote the figures with regard to the mines that actually sold ores. Thus there were 31 mines which sold arsenic and arsenical pyrites, Devon Consols being a long way at the head of the list with 2327 tons. There were 69 mines selling copper ore—57 in Cornwall and 12 in Devon; and here, again, Devon Consols stands first with 11,383 tons, followed by South Caradon with 6467 tons. Eight mines sold iron ore, four in each county; thirteen lead ore—West Chiverton at the head—two only in Devon; three silver ore, all in Cornwall; four manganese, the Cornish production being purely nominal; eleven zinc ore, all in Cornwall; four iron pyrites, one barytes, and one (East Pool) bismuth, uranium, and wolfram.

This brings us to the most important set of the series—the tin mines; and these we find numbered 87, of which three only were in Devon. These sold tin in the stone or undressed, either wholly or in part, but the quantity of black tin thus represented was small, only 572 tons, as compared with the total output of 13,341 tons. Dolcoath stood at the head of the list with a yield of 1404 tons, Carn Brea coming next with 1038, while Tincroft rose 755, West Wheal Bassett 679, and the Phoenix 625 tons.

There is not much evidence of depression here, at any rate; but when we come to consider the personal statistics we see very plainly what the result of the low standards of the past few years have been. As compared with 1876, there is a total diminution of 1257 persons employed, of whom 500 were employed underground, and 757 at the surface. There are now only 17,402 persons employed on the mines in Cornwall, and 1995 on those in Devon, of whom just half are at work underground. We have in Dr. Foster's report no reference to reduced or absent dividends, which do not come within the scope of his enquiries, nor to low wages; but figures such as these tell their own tale very plainly.

In one respect, at any rate, the report may be deemed satisfactory—the accidents were more numerous than those of 1876, but the death rate thence resulting was much below the average of the last five years. There were 26 separate fatal accidents, causing 30 deaths, against 19 accidents and 21 deaths in 1876. But then in 1873 there were 59 fatal accidents and 60 deaths, so that something substantial must be set down as the result of inspection. But we will return to this point next week.

That the policy which has been adopted at Devon Great Consols in regard to the five-weeks month would be affirmed numerically by the shareholders if persisted in, was what we were quite prepared to see, for very few of the shareholders who are non-resident can have any clear idea of the merits of the question on which so many contradictory statements have been made. But we did hope that at the last moment there would be some admission that a blunder had been made, and that the position which had been taken up would have been abandoned as untenable. Instead of this, however, the result of the meeting is to intensify feelings already high, and to widen a breach almost irreparable. A rumour has reached us that since the meeting something in the shape of a compromise has been arrived at. But if anything involving the five-weeks month could by possibility have been accepted before, the attempt would be utterly hopeless after what took place at the meeting. And that Mr. Watson, after fighting hard to obtain a victory, should at the last moment consent to abandon it in such a way as to agree to a compromise which would exclude the five-weeks month, does not seem very likely; however, we shall know more on this head soon. Meanwhile, we will only express a wish that the current belief—rightly or wrongly—in the neighbourhood, and that is that the result of the meeting is practically equivalent to the abandonment of these once famous mines. Those who should know best believe that it will be utterly impossible to find men to work them on the terms now laid down, and this is rendered pretty clear from the way in which the movement to render help to the men out of work is being taken up. The whole business appears a greater mistake than ever.

One of the most important cases—at any rate, in a pecuniary sense—that has ever been before the Stannaries Court came before the Vice-Warden on Monday, when the official liquidator of the Boswell Tin and Copper Mining Company (Mr. C. W. Clinton) made a claim upon Mr. Albert Milsted, agent, London; Mr. G. W. Owen, C.E., London; Mr. J. E. Smith, solicitor, Leeds; Mr. Henry Stead, merchant, London; and Mr. J. Thompson, London, as directors of the company; and Mr. Presswell, London, as solicitor for the company, for 29,000l., the difference between 15,000l., the consideration agreed to be paid by Albert Milsted and George Charles Silk for the mine to Edwin Stephens Boyns and James Trembath Kevern, and the sum of 44,000l., the consideration which was paid by the Association to Albert Milsted.—Mr. R. M. Paull appeared for the official liquidator; Mr. Chilcott represented Mr. Milsted, and with Mr. E. W. Owen, London, Messrs. Owen, Stead, and Thomson; Mr. Smith conducted his own case; and Mr. Dobell appeared for Mr. Presswell.—The case lasted several hours. The allegations made on behalf of the claim was that this company, Messrs. Boyns and Kevern, had entered into an agreement with Mr. Milsted in 1871, and that he entered into an agreement with the prospectus was issued to buy Boswell Mine for 15,000l. When, however, the prospectus was issued it did not comply with the Public Companies Act in naming the names and dates of this agreement, only mentioning the agreement which Mr. Milsted had entered into with Mr. John Garland, the secretary of the company, to sell the mines for 44,000l. In the prospectus, however, an invitation

was given to inspect this agreement, which contained the agreement with Messrs. Boyns and Kevern in *exclusio*. It was alleged that Mr. Milsted sold shares to his friends for a merely nominal consideration to qualify as directors, and carry out his agreement, which was said to be prejudicial to the interests of the *bona fide* shareholders, as the bulk of the money did not go towards the purchase of the mines, but was retained by Mr. Milsted as promotion money. Mr. Paull contended that the directors were the paid servants of the promoter, and in giving 44,000l. for what they well knew they could get for 15,000l. they committed a breach of trust, and should be made to pay back to the shareholders the difference. Mr. T. Cornish and Mr. H. Thomas, of Penzance, solicitors to the lords, had been subpoenaed to show that the prospectus was false in stating that Mr. Milsted had made arrangements for the granting of new shares; and while the latter was examined His Honour stopped the case on the ground that though there had not been a literal compliance with the law, he could not say there was wilful concealment of the original agreement, since the public were invited in the prospectus to inspect the second agreement in which the first was fully set out. For two and a half years the company existed, and shareholders did not care to inspect it, or having inspected it were satisfied.—Mr. Paull remarked on the fact that the greater part of the money went in the shape of fees to the directors.—His Honour replied that this was not the question now raised. It was impossible to condemn too strongly the manner in which this company was started. To be asked to believe that a property sold one week for 15,000l., rose in the next to 44,000l. was making a strong demand on the imagination; and the agreement for 44,000l. was, without doubt, made by the creatures or nominees of the promoter. The contract was, no doubt, foisted on the company, which was as full of suspicion as anything could be; the whole air was charged with fraud, but there was not that specific fraud of concealing the contract as alleged.—The rule was then discharged with costs.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

May 30.—Firms engaged in the iron and coal industries are unable to give any better accounts of the state of trade. They say that things are about as bad as they well can be, and that little, if any, improvement is to be noted on several months back. Asked when a revival is going to set in they will not venture an opinion, prospects being as uncertain as ever. Standard prices are without alteration, but so keen is the existing competition, and so much has it become the habit of each firm to quote independently of its fellows, that these cannot be relied upon as denoting the real tone of the market. The stocks in makers' hands in the pig iron trade have not been heavier than they are now for many years past; consumers have abundance of iron in their keeping to satisfy their wants, but they have been very careful not to overstock. Firms engaged in the heavy ironfounding business, such as the casting of mains, pillars, and the like, are taking a larger proportion than usual of the pig iron now being produced. Sheets for gasometer building and common sheets for galvanising are the descriptions of manufactured iron most in demand. For these latter 74 15s. is a general quotation. The prices of tin-plates are strengthened by the Welsh combination somewhat. But it is not believed in this district that makers will be successful in advancing the minimum quotation for ordinary coke-plates in Liverpool to 16s. 6d. per box, inasmuch as, although last week sellers hereabouts were demanding the increased rate, yet this week 100 boxes in one transaction that has come within our knowledge have been sold at 15s.

Striking success continues to mark the efforts at the Round Oak Ironworks of Earl Dudley to produce good finished iron by gas generated from thick coal screenings. Another Casson-Dormy furnace, with whose perfection the name of Mr. R. S. Smith-Casson, the manager of the works, is identified, has just been set on. At a consumption of no more than 12 cwt. to 13 cwt. of screenings to the ton of iron, made 33 tons, saving only 10 lbs., of puddled bars, was obtained last week at a loss of only 5 per cent. on the quantity of pig-iron charged into the furnace. It is believed that this is the largest output in the same time of any puddling furnace not on the revolving system. Moreover, the quality of the bars is declared to be equal to ball-furnace iron.

The report of the Horseley Company (Limited), whose engineering works and blast furnaces are at Tipton, states that the transactions for the past year have resulted in a loss of 3405l. Further, that "the apparent surplus of 3338l. upon the balance-sheet will be subjected to any modification that may arise in profit or loss upon the works in hand on Dec. 31 last; but your directors do not anticipate that the surplus will have to be reduced." The works are now well supplied with orders. The surplus when ascertained will be distributed to the shareholders in the shape of dividend.

The North Staffordshire Coal and Iron Trades do not show any settled improvement, and business is but little altered from week to week.

One is afresh forcibly reminded of the recklessness of colliers by the circumstance that two operatives employed by the Chatterley Iron Company, at the Whitfield Colliery, have recently been fined by the local magistrates for neglecting the rules as to timbering, and that a collier employed at the Talke Colliery of the North Staffordshire Coal and Iron Company—a very free mine—has been fined for neglecting to report that his lamp was damaged.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

May 30.—Lead mining in the Wirksworth, Peak, and other districts is still very quiet, and, with the exception of one or two mines, the production of ore is comparatively trifling. Only a moderate quantity of ironstone is raised in the county, our ironmasters finding it advantageous to have a large portion of their supplies from other districts where the ore has certain qualities that the local has not. Thus, the Northamptonshire stone is of a highly silicious character, whilst the Lincolnshire contains its own flux, having a very large percentage of limestone, so the local stone is greatly improved by mixing with either of the others. The make of pig has undergone no change, but at some places there is a little more doing in it as well as in ordinary bars. Considering the time of year, the collieries have been fairly employed, and a better business has been done in house coal than might have been expected, so that a full average tonnage has been sent to the Metropolis from Clay Cross, Tibshelf, Grassmoor, Blackwell, and Eckington. But this is not likely to continue, for a change in the weather may now be expected of such a character as will lead to a greatly diminished consumption of coal for domestic purposes. A little more has been done in steam coal, and a marked improvement is now looked forward to. Owing to the stoppage of the two pits at the Renishaw Colliery, a good many men belonging to Eckington are now out of employment, and will find some difficulty in obtaining work at other places, seeing that the collieries generally are working short time.

Whilst a good many workmen in Sheffield are only partly employed, yet several branches are now much better off than they have been for some time, for some good orders have been received from Australia, Canada, America, and the Cape, as well as from Russia. Not so much is being done in armour-plates owing to the efforts being made to produce a mixed plate of greater tenacity than that made from iron alone, and the problem it is expected will be solved before long by experiments at Portsmouth. Ordinary plates are still in very fair request, and the mills are now fairly employed. The foundries are now going along very well in stoves, grates, and fittings. The various establishments in the town and neighbourhood engaged in the Bessemer branches are still doing very well, rails appearing to be in as brisk demand as ever, whilst there is also a steady output of tyres and axles of the same material. Russia has come to us for files, tools, and other goods, and large quantities of sheep shears are being dispatched to America and several of our colonies. The leading cutlery houses are better employed in the best qualities of table cutlery, as well as pocket-knives, both for the State and home markets, but secondary qualities are still very dull. There are some Government orders in hand, but they are fast being worked off.

At the works between Sheffield and Rotherham the trade appears to be tolerably good at the steel establishments, as well as at the mills and foundries, and the number of hands now at work shows a considerable increase of late. The engine shops are still quiet, and so also are the machinists, several of whom do a considerable business with Lancashire, which of course, is stopped, owing to the strike in the cotton districts. At Elsecar the furnaces are going on as usual, and the dispute appears to have been brought to a close, so that the mills may now be expected to go on as they have hitherto done, as it is said there is plenty for them to do. In Barnsley the foundries are far from being busy, and it is as much as most of them can do to keep the hands going. House coal in South Yorkshire has been in tolerably fair demand, and a steady trade in Silkestones has

been done with the Metropolis, whilst our exports of steam qualities from Grimsby and Goole compare favourably with those for the corresponding period of last year. Other descriptions of coal, however, do not go off so well. Prices of both hard and soft coal have undergone no change of late, and they are certainly not remunerative, whilst the railway rate is not likely to be changed in favour of colliery proprietors.

In the Barnsley district there are a considerable number of men walking about, owing to the closing of some pits and the strike at the Dodworth Silkestone Colliery. At the latter it is said there are now more than 100 non-Unionists employed, as many as are required, whilst applications for work are made daily. The men are making good wages, some of them as much as 50s. a week, whilst they are boarded and lodged for about 10s. 6d. a week, and every provision is made for their recreation when the day's work is finished. The old hands still hover about the place, hold meetings, and threaten, but every provision has been made should they resort to violent measures.

Mr. E. Beacher, late chief mining engineer of the Lund Hill Colliery, and consulting engineer to several others, died a few days ago suddenly at his residence, near Chapeltown.

The shareholders in the Whittington and Sheepbridge Colliery Company met at Sheffield yesterday, and decided to wind up the company. It was established four years ago, with a capital of 50,000l., the vendors guaranteeing a dividend of 10 per cent. For five years the concern has never been worked to profit, and as its liabilities now amount to 2,000l., and there is only 500l. to pay them, it was decided to go into liquidation.

REPORT FROM NORTH WALES, SALOP, AND CARDIGAN.

May 30.—Entering Denbighshire from Flintshire the first colliery we reach, after passing the dividing ridge of mountain limestone and millstone grit of Hope Mountain and Caergwile, is that of the Lilleshall Colliery, near Cefn-y-bedd, which seems to be in fair work. Further on, near Wrexham, we have the recently developed colliery and brickworks of Llay Hall, which has also been brought into good working order, and connected by a siding with the Wrexham, Mold, and Connahs Quay Railway. To the south there is an important group of collieries, including the Westminster, Brymbo, Bryn Mally, Cae-Penty, Vron, and Ffrwd, all of which appear to be doing a fair trade. The Ffrwd Ironworks also show more signs of life. Further south-east there is the Broughton Colliery, and the new winning of the Plas Power, and close to Wrexham the large colliery of Wrexham and Acton. With the exception of Plas Power, which is not yet in working order, all these collieries are making large consignments of coal. Passing southward along the Great Western Railway we reach the new colliery of Bersham, the property of Messrs. Barnes, of Birkenhead, where the main coal has lately been won in good condition, and which is nearly ready for a good delivery. A little further on, on the other side of the railway, is the Hafod-y-bwlch Colliery of the Rughon Coal Company, which is not in such vigorous work as it has been. Close by on the right is the Vauxhall Colliery, which is doing a good trade. Then comes the Garsden Lodge Colliery, supplying consumers chiefly.

West of this there is a group of small collieries about Wynnhal doing a limited trade. Still southwards we reach on our left the Wynnhal pits of the New British Iron Company, whose sidings are well filled with the wagons of coal for local consumption, as well as for the shipping at Birkenhead. A mile distant we see the Plas-kynaston Colliery, now, as always, doing a good trade, and it is pleasant to note that its accumulated stock of coal is moving off. We now cross the River Dee, and soon reach the siding of the Black Park Colliery, which does not seem as busy as it used to be. The same remark is applicable to the Brynmallt Colliery close by, though we note that their sidings hold good trains of wagons belonging to Birkenhead shippers. We cross the River Ceiriog, and enter Shropshire. The first colliery we arrive at is the Quinta, which with coal and bricks is doing a moderate trade. Further on we reach the Preesgwyn, and then the Morton Hall pits of the Ruabon and North Wales Coal Company, which are unfortunately idle, and the sidings are crammed with empty wagons. A mile northward we reach the new workings of the Daywell Colliery, not now in progress. Five miles beyond, on the south of Oswestry, is the last colliery—that of the Oswestry Coal and Brick Company, which seems to be more active in the latter than in the former department. The coal measures now pass under the alluvial deposits of the Rivers Vyrnlew and Severn, and reappear in South Shropshire. Their course, however, from Alberbury by Pontesbury to Leebotwood is marked by the ruins of abandoned collieries, not more than three or four being at work, and these on a small scale, along the entire course of the coal measures. Such is a rapid traverse and glance at the collieries of Denbighshire and West Shropshire. With the hope of the continuance of peace comes a rift of light through the heavy cloud of depression that for four years has now hung over the district.

A society but little known has been in existence some years for the relief of colliers and their families suffering from the results of accidents. The beneficial operation of such a society is now endeavoured to be extended; subscriptions are invited, and if a sufficient amount be forthcoming it is hoped that about 7000l. will be available from the balance of the Hartley Relief Fund.

The preamble of the Glyn Valley Tramway Bill has been passed by the Committee of the House of Commons; the Bill provides for an extension of the tramway up the Ceiriog Valley, and also for the substitution of steam for horse power. Among the arguments used by Mr. Theodore Martin in favour of the Bill was one based on the existence of hematite deposits up the valley. This, I imagine, is a little drawn upon the imagination. The proved mineral deposits of the valley are so important that there was hardly any need for the promoters to call in the aid of any others. Of lead mines there is little to say this week, except to note the very low price at which ore from some of the Montgomeryshire mines has been sold, at 9d. 9s. per ton. The report from West Tankerville continues favourable.

TRADE OF THE TYNE AND WEAR.

May 30.—The Coal Trade continues in an extremely unsatisfactory state here, on the whole. Steam coal has become very quiet, although most of the best works are still fairly employed, and there is no change in quotations; should a good foreign demand spring up for this coal, as may be expected if peace is secured, which now appears to be probable, the trade would improve rapidly, as no stocks of any consequence are held. House coal continues extremely dull, and prices are dropping. The demand for coking coal and manufacturing coal is far under the supply, and in consequence sales are forced by some parties at prices which can only result in a loss. It is generally held at present that unless a marked improvement occurs within the next few months a number of works in Durham must be stopped. The strike at the Eldon Colliery continues, and at present there is no appearance of a settlement. The opening out of new markets for the mineral produce of this district is, of course, of the greatest importance, and, as has been recently pointed out in the Journal, France is one of our best customers for coal. It is clear that English coal can compete successfully with French when it can be delivered at the market by water carriage, but when the coal has to be delivered into trucks, and conveyed by rail the case is different. The Paris market must become of great importance to the coalmasters of this district when free access is got to that great metropolis by water carriage. The consumption of coal at Paris at the present time is 2,000,000 tons per annum, and this will, no doubt, be largely increased when a plentiful supply of fuel is obtained. The cost of taking coal from Rouen to Paris at present by rail, after being put into trucks, is 6 frs. per ton; it is, therefore, satisfactory to find that operations are in progress to improve the channel of the Seine, so that a depth of 10½ ft. will be secured at the quays at Paris. The measure introduced and carried by M. de Freycinet for the purchase of the local railways, the improvement of the principal French rivers, and the formation of harbours, appear to be calculated to vastly improve the trade of France, and, of course, of England and Europe generally, but much will depend on the growth of the free-trade principles, and those doctrines, which are no doubt sound,

have powerful opponents in France, the colliery owners amongst the number.

The great salt bed discovered at Middlesbrough by the deep boring of Messrs. Bolckow and Vaughan has not as yet been utilised. This tardiness in developing such a valuable deposit in a locality where salt is so largely consumed at chemical works, is owing to the dull state of commercial matters. That this salt bed extends over a large area is clear, as Messrs. Bell Brothers employed the Diamond Rock-Boring Company to prove the salt beds on the north side of the Tees, and after boring to a depth of 1200 ft. they met with the same bed; they hold an extensive royalty, but the present depressed state of trade deters them from taking any steps to get this valuable mineral.

On Monday Earl Granville, the Hon. Leveson Gower, M.P., Mr. J. Pender, M.P., Mr. Henry Bessemer, and other gentlemen guests of Mr. Isaac Lowthian Bell, M.P., visited Cleveland for the purpose of looking through the steel and iron making works in the district. The distinguished visitors proceeded to the works of Messrs. Bell Brothers at Port Clarence, where Mr. I. L. Bell and his son (Mr. T. H. Bell) explained all the details connected with making of pig-iron. There are 12 blast-furnaces at these works, a recently erected row of four fronting a row of eight. Having thoroughly inspected the works, and obtained some information respecting Mr. Bell's experiments on Cleveland pig-iron, which it is earnestly hoped will ultimately result in phosphorus being easily expelled, the party were entertained to luncheon in Messrs. Bell's offices. After luncheon they were taken by steamer down the River Tees to Messrs. Bolckow, Vaughan, and Co.'s jetty at Eston, where they inspected the steelworks of that firm. They saw the blast-furnaces tapped, metal put into the Bessemer converter, steel ingots produced and quickly made into rails 100 ft. long; these were rapidly cut into lengths of 30 ft. The firm are now making about 1200 tons of steel rails per week. The party next visited the Tees Ironworks, where they witnessed the process of Mr. Charles Woolf's slag woolmaking, and a model of Mr. Wood's railway sleeper and clip-chair, and the party soon after separated.

At Middlesbrough on Tuesday the iron market was well attended, but there did not appear to be any increased animation in business worth mentioning, though unquestionably there was a better tone consequent upon the Eastern Question having assumed a more pacific attitude. Buyers do not operate at all freely, and prices of No. 3 range from 38s. to 38s. 6d., less commission. To buy any quantity the latter rate has been paid. Forge iron No. 4 is about 37s. 6d., less 1 per cent. Earl Granville was on 'Change in the earlier part of the meeting, and his presence created a good deal of interest. There has been a manifest falling off in the shipments of pig-iron to Scotland of late. Last week only 3340 tons were despatched from the Tees, against 6000 to 7000 in an average week. There is every reason, however, to hope from the condition of the Scotch trade that these deliveries will be improved upon as the season proceeds, especially if trade should become more settled, and prices be arrested in their downward movement. The report of another of the large iron companies in the district—the Skerne Iron Company (Limited)—is satisfactory in one sense that no loss is shown, but, on the contrary, a small profit of 394l. on the last year's working—24,000 tons of iron. The shareholders may congratulate themselves that the balance is not the other way, as in the majority of cases. Last week Hopkins, Gilkes, and Co. (Limited) showed a loss on the year of 9400l. The demand for finished iron still continues restricted. Plates are doing better than any other class of trade, but prices are coming down, and 6l. 2s. 6d. is now the general figure for ordinary ship-plates. The bar trade is in no sense improved—common bars, 5l. 10s. 3d.; angle-iron, 5l. 12s. 6d. to 5l. 15s.; boiler-plates, 7l. 5s. Besides the conversion of the Middlesbrough works of Bolckow, Vaughan, and Co., for steel-making, other concerns are contemplating taking a like step. The coal and coke trades are very dull.

REPORT FROM MONMOUTHSHIRE AND SOUTH WALES.

May 30.—Some interesting experiments have been made during the week with a new explosive invented and patented by Messrs. T. S. Huntley and R. W. Kessel, of Cardiff. The compound is in the form of a paste, and is intended to take the place of gunpowder or dynamite for blasting purposes. It is claimed for the explosive that it is of a very safe character, and may be transported by any means of carriage without danger, that it can be worked under water, that it is seven times the strength of blasting-powder, and that it can be supplied at a cost of about two-thirds that of dynamite. Some experiments have taken place during the week, and those present—colliery engineers and others—signed a declaration in favour of the new compound. One experiment was made at Hafod in a quarry of very hard Pennant rock. In each of two holes 3½ lbs. of the new explosive were placed, and the charges fired by electricity. The result was that a mass of rock from 130 to 150 tons was dislodged so as to make it easily workable by quarrymen.

The success of the Pontypridd, Caerphilly, and Newport Railway Bill is now considered as certain, as the formidable opposition of the Taff Vale is done away with by arrangement between the parties. The Marquis of Bute's trustees, however, seem determined to oppose in the Lords.

The first sod of a canal connecting a timber float, now in course of construction, with the Alexandra (Newport) Dock was cut on Thursday, by Mr. J. C. Parkinson, managing director of the company. The float will be about 2800 ft. in length and 200 ft. in width. The canal will be about 800 ft. in length. Mr. James Abernethy is the chief engineer, and Mr. Walsh the resident engineer. It is believed that the work now inaugurated will add largely to the import trade of Newport, which is already becoming important.

The Iron Trade shows no sign of any material improvement. Clearances have been somewhat small during the week, but there is apparently a little better demand for iron on the part of the colonies, and with a few orders from the Continent some of the works are kept on. At the same time rails are badly enquired for; and this branch of trade appears to gradually get duller. Neither is there any better enquiry for bars on foreign account. Pig-iron is also materially unaltered. The steel trade is gradually taking up a more important position in the district; and with the facilities South Wales possesses she ought to be able to compete successfully with any part of the kingdom. She can obtain iron ore from Spain at a low rate; coal is abundant and near at hand, and wages are low here. The Tin-Plate Trade has not much altered, although a slightly better tone appears to pervade the market. The restriction in make will take effect from June 29.

The Coal Trade seems to be still slightly improving. Clearances are fairly good, and the demand for steam qualities is well kept up. The Mediterranean depôts are still the destination of a large quantity of coal. Prices have not yet actually changed, but are firmer, and many believe that a change for the better is not far off, and house qualities remain in about the usual state—that is, dull; but then that is generally so at this period of the year. Patent fuel still lacks animation. The sliding scale committee has met during the week, and the result has been, as most people expected, that no change is to take place in the wages of the men. Two "finds" of coal have recently taken place in this district. Coal has lately been won at Clynne, a hamlet near Resolven, in the Vale of Neath.

After insuperable difficulties, Messrs. Whitworth and Co. have succeeded in winning the well-known Pen-y-graig Resolven upper series of steam coal, at the Clynne Pit, in the Vale of Neath, at a depth of 210 yards. This has been accomplished after a period of sinking of over two years, the obstacles to which have been very great from a mining point of view. The work has been carried on under the supervision of Mr. Boad, mining engineer. This will greatly enhance the value of property in the immediate neighbourhood, as it was currently reported that coal would not be met with in this particular district. This coal is of superior quality, and is on the Admiralty list.

A colliery explosion took place at the Forsygo pit of the Westminster Colliery, Wrexham, on Thursday. Nineteen men went down to work at the usual time, but shortly afterwards an explosion of gas took place, and all the men suffered more or less, two being found dead—Joseph Millington and Ismael Davies. Fourteen

others were brought up, and conveyed to their homes in carts and other vehicles, the remaining three being able to walk home. At least three of the injured men are not expected to recover, though every medical assistance was forthcoming.

One of Hall's patent automatic water elevators, now in general use for elevating water from bridge cylinders, excavations, boreholes, mines, quarries, clay pits, &c., has just been fitted up at Harries' graving dock, Swansea, by Messrs. Winter and Son, general engineers, and a brief trial of it was made on Saturday. At present the dock is cleared by a pump with two 6 in. pipes, but it is claimed for the elevator that with a pipe of 1½ in. in diameter it will clear the dock in the same or even in less time, whilst the power may be increased according to the diameter of the pipe and increased steam power to an almost indefinite extent. The elevator is worked by steam from a small boiler 14 feet by 3 feet, of two-horse power, and it will raise 3050 gallons per hour. The contrivance is so simple that it can be worked by the fireman without any assistance whatever. The principle is that there are no valves, racks, pinions, springs, checks, or other delicate parts, so that they cannot get out of order. The whole cost of the one erected at the dock will not exceed 15l. The trial on Saturday appeared to give every satisfaction, a continuous and forcible stream of water being ejected from the pipe to its full extent. This elevator is known as No. 12, but they are made up to No. 50, so that the force of the water may be imagined. No. 15 elevator, with pipe of 2½ in. in diameter, will throw 10,000 gallons per hour 200 ft. high. The elevators, which are extensively used in various parts of South Wales, are supplied by Messrs. Fairburn and Hall, engineers, Manchester.—*South Wales Daily News.*

REPORT FROM THE FOREST OF DEAN.

May 30.—The coal trade has scarcely, if ever, been known to be in a more unsatisfactory condition than at present. The trade is exceedingly dull, and many colliers are out of work, whilst some who are employed have recently been doing next to nothing. The Crump Meadow men did only a day and a half's work last week, and during this week, so far, have only done one day's work. The consequences of such slackness of employment are truly distressing. One of the men with whom we were conversing at the end of last week, who has half-a-dozen children, told us that he felt so weak from insufficiency of food that he could hardly keep from falling as he walked along; and his countenance and general appearance confirmed the truthfulness of his words. It is a painful truth that his is not a solitary case, but that many are similarly circumstanced. Alas for them, poor things! for the numerous children which many of them have render it impossible for many of them to emigrate. Young men, however, are eligible, and numbers seem inclined to become colonists. The iron trade is also very sluggish, and the slight spur mentioned in our last only applied to the reduction of stocks of pig-iron. The tin-plate trade, too, is sharing the general dullness; and what evidently affects that branch of business is the present divided state of feeling, the Masters' Association not being able to agree about the reduction of manufactures—some being for the reduction and others against it. Mr. Chivers has commenced the erection of the projected tin plate works near his colliery—Hawkeville—and has a considerable staff of men engaged in putting in the foundations. But although the erection of these works will give employment to masons for several months to come, on the other hand Crump Meadow proprietors are about to discontinue working the thin seams of coal, which next week will considerably increase the number of the unemployed.

On Saturday last a sad and fatal accident occurred at Edge Hill, or, as it is often called, Westbury Brook Iron Mine, belonging to Sir Ivor Guest, of Dewlish Works. As some of the men were coming out about two o'clock the banksman neglected to duly wedge the machinery, which occasioned the wire-rope to slip from the drum, and the engine lost all control, the consequence being that nine persons in the cart fell down the shaft, with some tons of rope after them. At first they thought that the enginemaster was sinking them to bring them back, but as the velocity of the fall increased they quickly realised their awful position, and their cries to their Maker for mercy were heartrending. The fall was close upon 70 yards. Two were killed, and seven others—two are maimed for life, and the rest so severely shaken that they will feel the effects of the accident for a long time. But although the men still living may get well, the surgeon cannot promise their recovery as a certainty. An inquest was opened on Monday last, and adjourned for the attendance of the Inspector of Mines till Wednesday (yesterday), when a verdict of manslaughter was recorded against the banksman (Smith). It has been stated that Mr. Phillips, the manager, stood near the banksman at the time of the accident, and outsiders consider if so he was to a certain extent responsible for the safety of the men, and should have enforced obedience upon Smith to the rules necessary for the safety of the men. If this item respecting the presence of the manager be correct, of course it will be elicited either at the magisterial hearing or at the trial in the Assize Court, supposing that on Monday next the magistrates send the case for trial. It is undoubtedly a case that ought to go for trial, so that all the facts and circumstances may be thoroughly sifted, and the legal points duly decided. In all fairness, men who engage in dangerous employments, and mining of all kinds is dangerous, should have all the protection and safeguard which science and enlightened humanity can supply.

A new firm has taken to a Forest colliery, of limited extent, and it is said that notwithstanding the distress and hard times the manager finds it difficult to induce men to accept work at wages which will admit of the proprietors realising a margin of profit. However, the concern is only in its incipient stages we forbear further reference to it. Prices are much as they have been for some little time past, ranging from 8s. per ton upwards to merchants.

FOREIGN MINING AND METALLURGY.

At St. Dizier former rates for iron have been about maintained. The foundries in the St. Dizier group are in rather a better position than the forges, as some orders still reach them. The works which apply themselves to the construction of railway plant are rather pressed with orders. In the Loire-et-Rhône district business has been distinguished by rather considerable reserve; first-class iron is quoted in the Loire-et-Rhône group at 7l. 4s. per ton. In the Ardennes ordinary iron is disposed of with some difficulty at 6l. 12s. to 6l. 16s. per ton. The Grand Combe Mines Company announces a dividend of 4l. per share for 1877, payable 2l. per share on June 15, and 2l. per share on Dec. 15, 1878. The Monseigneur Mines and Ironworks Company will pay a dividend of 5 per cent. for 1877.

A Chinese Company is about to be formed for opening out and working the mineral wealth of China. No European is to be admitted into the company, which aims at the working of collieries and the establishment of ironworks, steelworks, and construction workshops. The iron minerals of the Somorostro district, near Bilbao, Spain, are divided into three principal classes—the Vena, the Campanil, and the Rubio. The minerals are rich in iron. The absence of sulphur and phosphorus, the generally calcareous gangue, and the high richness in metal have secured a deservedly high reputation to the Somorostro minerals, and they probably combine above all others the characteristics sought after in the production of the pig required for the manufacture of Bessemer steel. The exportation of the Somorostro minerals has been rapidly increasing of late; it amounted last year to 980,000 tons, of which about 500,000 tons went to England, 250,000 to France, and the remainder to Belgium and Germany. The Campanil minerals are especially in request, as they are somewhat cheaper than the Vena minerals. This is due to the fact that the Vena minerals are found at some depth below ground, and have to be worked by galleries, while the Campanil minerals are met with almost on the surface, and can accordingly be worked more readily. The exports have been well sustained this year. In April, 1878, for instance, they amounted to 83,865 tons, of which 64,830 tons went to England, 12,740 tons to France, 1720 tons to Belgium, 1680 tons to Germany, 250 tons to the United States, and 2845 tons to other countries. Prices have of late displayed a slightly downward tendency, in consequence of the threatening aspect of European politics; they may possibly now improve. The Cuidad Real and Badajoz Railway Company has decided upon adopting iron permanent way upon the Serres and Battig system upon a short portion of its line. The trial is to be made, however, quite experimentally.

The Belgian coal trade has presented no particularly new features, either as regards interior or external sales, or as regards fluctuations of prices. The only piece of news which can be communicated is the rejection by the Belgian Senate of a bill for regulating the labour of women and children in mines. It appears from an official return that the production of coal in Belgium in 1876 amounted to 14,329,578 tons. In this total the Hainaut figured for 10,486,660 tons, the province of Namur for 474,975 tons, and the province of Liège for 3,367,943 tons. The cost of producing the 10,486,660 tons extracted in 1876 was 7,614,433l. The cost price per ton was somewhat higher in the Hainaut than in the province of Namur or the province of Liège. The number of workmen employed in coal mining in Belgium in 1876 was 108,543—in the Hainaut 79,047, in the province of Namur 3773, and in the province of Liège 25,723. The average wages paid in the Hainaut were 41l. 8s. 9d. per man per annum, in the province of Namur 36l. per man per annum, and in the province of Liège 41l. 8s. per man per annum. The average production was 133 tons per man per annum in the Hainaut, 125 tons per man per annum in the province of Namur, and 131 tons per man per annum in the province of Liège.

Original Correspondence.

THE CAPE MINES.

Sir,—Surely the last meeting of this great company, and the details furnished, should finally stop the mouths of its detractors. It was there shown that had the price obtained for its ores only been what it was two or three years ago the profits would have been not 240,000l. gross but 240,000l. net, representing a dividend of 12l. per share. Mining speculators live chiefly by "bearing" shares, and get a fat living by all the moonshine schemes that are brought out for them to practice their noble art on at the expense of an unwary public. But the "bears" have not done well with this company, and hence their displeasure.—May 30.

HULTAFALL MINING COMPANY.

Sir,—The prominent position which the works at this mine now occupy is my only excuse for again troubling you with a short letter, for which I beg the favour of an insertion. The agent at the mines reports under date May 19—

"The re-jigging the lead ore is a complete success; the ore now going to the first compartment of the fifth jigger is all that could be wished."

Mr. Green, who is sending out the additional machinery, writes under date May 23 as follows:—

"I am sending the chat-mill off to day, with some other things. I could not get the whole ready for this week's boat, and, therefore, send all that is ready to go on. I am quite in earnest in offering to take the contract for the tramway, but am almost afraid that to include locomotive 1000l. per mile is too little. Some of the rock which will need removing is very hard, and banks rather high. I shall see the section, however, and can then judge better. As you have already found, the actual assay of the slimes is 72 per cent. I shall aim at more than 75 per cent. Depend I shall not rest until perfection in quality is attained, and neither forget that quantity is also required. I had a long letter from Mr. Perkins this morning, which shows he is in earnest."

We expect to get the machinery in full working order, and sending forward dressed lead and blende by the end of June; this will be only ten months from the time of starting—a result almost unprecedented. The Vieille-Montagne Company's report for last year is out, showing that the returns from their Swedish mines are greater than any former year, and they are the best properties the company holds. I would suggest to our shareholders a visit to Sweden, which can be accomplished both cheaply and expeditiously, and they can see our mines and dressing floors, the Vieille-Montagne Mines and dressing-floors, besides visiting the capital (Stockholm) for a sum not exceeding 20l., and I am sure they will go away satisfied that the mines of the Hultafall Company will prove one of the greatest successes which have been introduced into this market. All we want now is a little patience while the dressing-floors are being finished. GEORGE BATTERS, *Austinfurris, London, May 31.*

NEW QUEBRADA COMPANY.

Sir,—Having been abruptly interrupted in my observations at the meeting of the above company, held yesterday at the Cannon-street Hotel, would you kindly grant me space for the following remarks: I indignantly repudiate and emphatically deny the insinuations cast out by the Chairman that I am actuated by "ulterior motives," calculated in some way to be detrimental or injurious to the company; on the contrary, my share in the royalties payable on the ore renders my interest as great as any of the shareholders, and identical with that of the general body, being solely dependent upon the successful working of the mine.

I need not, I trust, say more on this point, but as regards the important question now before us—namely, the reduction of the percentage ore, I may mention that in my letter from Venezuela, and immediately upon my return to England early last autumn, I strongly advocated that the yellow ore be reduced to regulus. I am glad to find that the directors now coincide in that view, and appear to be fully alive to the necessity and importance of at once taking active steps towards bringing about so desirable a result. The appointment of a committee of shareholders to confer and act with the directors respecting the affairs of the company, and in arranging some basis on which to raise the required capital to meet the pressing wants, was in my opinion the very best course which could have been adopted, and it will no doubt in a great measure remove the want of confidence caused—I venture to submit—by the unwise reticence and silence of the board respecting the working and progress at the mines.

Whilst on this subject I would urge the committee to impress upon the directors the advisability of publishing in your valuable paper short extracts of the monthly advices received from the mining agents in Venezuela, as is done by the Cape Copper and other great mining companies; by so doing the shareholders would always be posted to what is going on, without being compelled to "worry and harass the directors," as the Chairman is pleased to describe the very natural desire of shareholders, who seek to obtain information as to their property, and the condition of the company. However, I trust that these are now things of the past, and before we meet again, on June 27, it is to be hoped that some feasible proposition will be issued, offering good security and a fair rate of interest to those willing to subscribe; and as it is absolutely essential to the success of our operations that money is provided to construct the reduction works, I sincerely trust that the proposed scheme will be of such a nature as to meet with the general approval of the shareholders, and that they will heartily respond to the invitation to subscribe the necessary funds. Great care must be exercised in the selection of a system for smelting the ores, not only suitable to the climate, but with due regard to the circumstances and nature of the surrounding country, and I would suggest for consideration the advisability of trying two or three of the most approved methods, and the one giving the most satisfactory results be adopted, otherwise we may fritter away our money in putting up furnaces which may prove hereafter not to be the best adapted to the requirements of the company.

As regards the Bulwar Railway Company, it is satisfactory to know that there is a probability of still further reducing the high rate hitherto charged, and I am sure that the railway company can well afford to act liberally, as, by judicious management, coffee and other produce from the interior can be carried over the line, yielding more than sufficient to cover the working expenses.

I confidently believe that, by adopting reforms which past experience has shown to be necessary, and by sound, practical, business-like management, the Quebrada Mines will yet yield large and permanent profits. W. W. BURN.

Great Winchester-street, E.C., May 31.

[For remainder of Original Correspondence see this day's Supplement.]

WHEAL COMFORD.—Comparative little has been heard of this mine, and no effort made to bring the mine before the public. Nevertheless, the adventurers have not been idle, and it is now able to tell its own tale, and to the surprise of many is producing masses of solid copper ore from the main lode, equal in richness to that of Wheal Buller in its prime days. Nothing can be more gratifying to the adventurers themselves, and nothing more pleasing to those who are anxious to see a mine conducted as it should be. We have been favoured by the receipt of a confidential report of the mine by one of the ablest experts in the country, and we can no longer be regarded as speculators, and we are bound to believe from the evidence it has itself furnished, that another rich copper mine is being developed upon the true principle of legitimate mining, and bids fairly to become a property of a great and lasting value to the proprietary and the Gwennap district, which has so long been under a cloud.

A BONUS OF £15 WILL BE GIVEN TO ANY Gentleman who places 100 Shares in a good LEAD MINE in a fortnight. Particulars from "Zeta," care of Mr. Rutter, 5, Pyn's-terrace, St. Dunstons, Exeter.

CHEMIST.

A YOUNG MAN, who has studied for three years in the Laboratory of a Scotch College, and has eighteen months' previous experience in the Laboratory of a Copper Mining Company, **SEES AN EXCHANGE.** Address, "J. P., W. Porteous and Co., Advertising Agents, Glasgow."

PHOSPHATE OF LIME.

A LARGE TRACT OF LAND, containing PHOSPHATES of LIME, high percentage, FOR SALE. Apply to T. CURRIE GREGORY, C.E., 53, Queen Victoria-street, E.C.

WANTED.—MINING MACHINERY.

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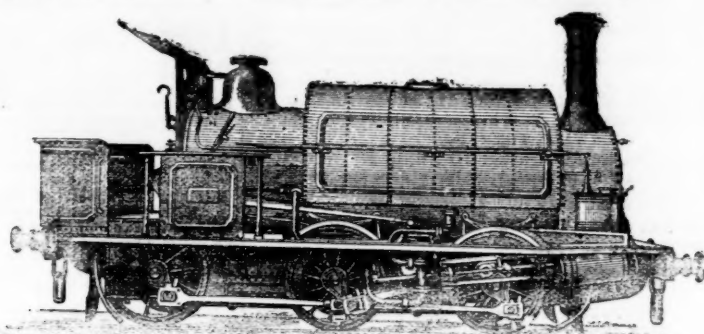
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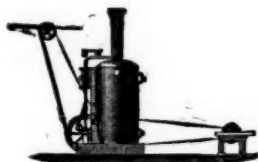
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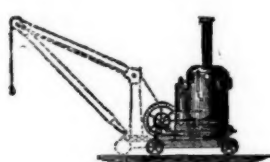
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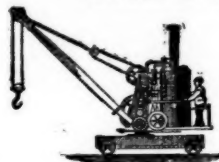
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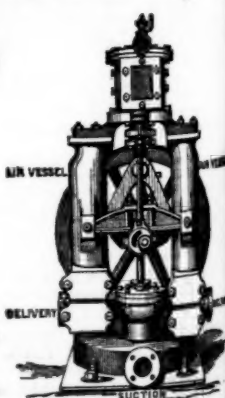
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4000	Brookwood, c, Buckfastleigh	10 0 0	1	1	3 16 0	0	20. Nov. 1876
2000	Bryn Allyn, c, Denbigh	10 0 0	1	1	0 7 0	0	7. Jan. 1877
400	Cashwell, c, Cumberland	2 10 0	2 1/2	1 1/2	1 9 0	0	20. Aug. 1876
1900	Carn Brea, c, Illogan	36 7 6	41	40 42 1/2	308 0 0	1	0. Feb. 1874
2100	Cook's Kitchen, c, Illogan	24 4 9	1 1/2	1 1/2	11 17 0	0	7. Jan. 1878
1240	Devon St. Consols, c, Tavistock	1 0 0	3	2 1/2	116 16 0	0	5. July 1877
4200	Dolcoath, c, Camborne	10 14 10	31	19 31	112 6 0	0	5. Mar. 1878
8000	East Black Craig, c, Scotland	6 0 0	—	—	0 10 0	0	10. Feb. 1877
900	East Darnley, c, Cardiganshire	32 0 0	—	—	235 10 0	1	0. Aug. 1878
6100	East Pool, c, Illogan	0 9 9	—	—	15 9 3	0	26. May 1878
40000	Glasgow Carr, c, 10,000 21 p. 10,000 15 p.	13 1/2	1 1/2	1 1/2	0 13 4	0	6. Feb. 1878
7500	Gorehead and Merilyn Cons., c, Flint	4 0 0	3	3	0 3 0	0	5. Aug. 1877
15000	Great Dylife, c, Illogan	4 0 0	3	3	0 3 0	0	5. Apr. 1876
516	Great Laxey, c, Illogan	5 18 6	19 1/2	18 1/2	23 11 0	0	8. Apr. 1878
8000	Green Hurth, c, Durham	0 6 0	1 1/2	1 1/2	0 16 0	0	16. May 1878
3000	Groswington, c, Cardigan	2 0 0	1 1/2	1 1/2	1 18 0	0	3. Mar. 1878
9830	Gunnislake (Clitters), c, s	5 5 0	3 1/2	3 1/2	0 14 0	0	2. Jan. 1878
8000	Holmshurst, c, c, Callington	1 0 0	1 1/2	1 1/2	0 13 0	0	1. Oct. 1876
2800	Isle of Man, c, Isle of Man	25 0 0	—	—	82 5 0	0	10. Sept. 1877
1000	Leadhills, c, Lanarkshire	6 0 0	4	3 1/2	0 15 0	0	3. Mar. 1878
14000	Llanidloes, c, Montgomery	15 15 0	—	—	556 10 0	1	0. May 1878
9000	Marke Valley, c, Linkinhorne	3 3 6	1 1/2	1 1/2	0 9 0	0	4. Jan. 1878
10000	Mellandur, c, Hayle	2 0 0	3 1/2	3 1/2	7 18 0	0	2. Jan. 1876
10000	Miners Mining Co., c, Wrexham	5 0 0	14	3 1/2	0 2 0	0	2. Jan. 1878
20000	Mining Co. of Ireland, c, s	7 0 0	—	—	67 13 2	0	26. Jan. 1878
444	North Bury, c, Chacewater	3 9 6	5	2 3	23 17 6	0	26. Jan. 1878
10250	North Hendre, c, Wales	2 1 0	—	—	1 10 0	0	1. July 1877
30000	Pedra Negra, c, Wals (8794 lss.)	2 0 0	3	2 1/2	2 7 8	0	5. Jan. 1878
5000	Pennells, c, St. Agnes	0 8 6	5 1/2	3 1/2	0 10 0	0	1. Feb. 1878
6000	Pennant, c, North Wales	3 2 6	1	3 1/2	0 9 0	0	9. June 1877
45793	Penrith, c, c, Gwynedd	6 0 0	5	4 1/2	3 13 6	0	2. July 1877
14000	Prince Patrick, c, c, Holywell	2 0 0	3 1/2	3 1/2	0 10 0	0	8. Mar. 1878
10000	Red Rock, c, Cardigan	1 0 0	2 1/2	1 1/2	0 2 0	0	8. Nov. 1876
14000	Roman Gravel, c, Salop	7 10 0	8	7 1/2	0 14 0	0	1. Jan. 1878
512	South Cardigan, c, St. Cleer	1 5 0	70	60 10	742 10 0	1	0. Mar. 1878
8123	South Condover, c, Camborne	6 8 8	11 1/2	11 1/2	3 13 0	0	8. Apr. 1878
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15000	Van, c, Llanidloes	4 5 0	23	21 1/2	23 15 6	0	12. Jan. 1878
3000	W. Chiverton, c, Perranabuloe	12 10 0	8	8 10	55 10 0	0	4. Feb. 1878
1783	West Poldice, c, St. Day	10 0 0	—	—	1 19 0	0	4. July 1878
512	West Tolgus, c, Redruth	95 10 0	60	58 60	28 5 0	0	1. May 1878
2048	West Wheal Franks, c, Illogan	28 1 3	2 1/2	2 1/2	3 12 0	0	2. June 1878
600	West Wheal Saxon, c, Camborne	47 0 9	15	13 15	0 12 0	0	15. Apr. 1878
1204	West Wheal Valley, c, c, Montserrat	18 0 0	3 1/2	2 1/2	18 0 0	0	3. Apr. 1877
1024	Wh. Eliza Consols, c, St. Austell	18 0 0	3 1/2	2 1/2	18 0 0	0	3. Apr. 1877
4508	Wheal Killy, c, St. Agnes	2 13 10	1	3 1/2	8 5 0	0	1. Apr. 1878
35000	Wh. Newton, c, c, c, Calstock	5 4 6	2	1 1/2	11 19 6	0	2. Dec. 1877
80	Wheal Owles, c, St. Just	1 0 0	35	30 35	822 10 0	4	0. Aug. 1877
3000	Wheal Pevor, c, Redruth	7 11 0	6 1/2	6 1/2	0 5 0	0	1. Oct. 1877
9000	Wheal Prussia, c, Redruth	0 5 0	7 1/2	6 1/2	0 4 0	0	1. Oct. 1877
10000	Wheal Valley, c, Montgomery	3 0 0	1 1/2	1 1/2	0 10 0	0	4. Oct. 1878

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355 1/2	Alamillos, c, Spain	2 0 0	1 1/2	1 1/2	1 19 3	0	1. May 1878
20000	Altamira and Tinto Consol., c, s	1 0 0	2 1/2	1 1/2	0 6 3	0	1. May 1878
10000	Australian, c, South Australia	7 7 6	2 1/2	1 1/2	0 9 6	0	1. May 1878
15000	Battle Mountain, c, c, (8240 part pd.)	5 0 0	—	—	0 14 0	0	1. Nov. 1877
30000	Birdseye Creek, c, California	4 0 0	—	—	0 10 0	0	1. Nov. 1877
24433	Capo Copper Mining, c, So. Africa	7 0 0	31	32 1/2	30 10 0	0	17. June 1878
25000	Cañon Sul, c, California	8 0 0	—	—	0 8 0	0	2. June 1878
15000	Casaca, c, Utah	10 0 0	—	—	0 10 0	0	3. June 1878
15000	Chesna, c, Utah	10 0 0	—	—	0 10 0	0	3. June 1878
65000	Colorado United, c, Colorado	10 0 0	1	3 1/2	2 8 0	0	4. Nov. 1877
10000	Colopio, c, Chile (220 shares)	18 15 0	3 1/2	2 1/2	7 11 6	0	4. Jan. 1878
100000	Don Pedro North del Rey	0 16 0	—	—	2 8 0	0	3. May 1878
35500	Eberhardt & Aurora, c, Nevada	10 0 0	6 1/2	7 1/2	1 8 0	0	3. Dec. 1877
70000	English & Australian, c, St. Aust.	2 10 0	1 1/2	1 1/2	2 18 0	0	1. Jan. 1878
80000	Flagstaff, c, Utah	10 0 0	1 1/2	1 1/2	2 18 0	0	1. Jan. 1878
85000	Fortuna, c, Spain	10 0 0	1	1 1/2	2 18 0	0	1. Jan. 1878
50000	Frontino & Bolivia, c, New Granada	2 0 0	5 1/2	4 1/2	6 10 0	0	1. July 1877
50000	Gold Run, c, Nevada	1 0 0	2	1 1/2	6 10 0	0	1. July 1877
80000	Kapunda Mining Co. Australia	1 0 0	—	—	0 2 4	0	0. Oct. 1878
30000	Last Chance, c, Utah	5 0 0	1 1/2	1 1/2	0 14 0	0	2. July 1878
15000	Linares, c, Spain	3 0 0	5 1/2	5 1/2	17 10 0	0	2. July 1878
65000	Lundon and California, c, s	3 0 0	5 1/2	5 1/2	0 1 0	0	1. July 1878
7500	Lusitania, Portugal (25 sh.)	3 10 0	—	—	1 11 6	0	1. Mar. 1878
5000	Mammoth Copperopolis of Utah, c, s	10 0 0	—	—	0 4 0	0	8. Dec. 1877
10000	Pontbiquet, c, Utah	20 0 0	28	27 28	25 8 0	1	1. Jan. 1878
100000	Port Phillip, c, Cluene	1 0 0	—	—	1 10 0	0	1. Jan. 1878
54000	Richmond Consols, c, Nevada	5 0 0	9 1/2	8 1/2	4 11 6	0	1. Jan. 1878
40000	Santa Barbara, c, Brazil	0 10 0	1 1/2	1 1/2	0 4 9	0	1. Apr. 1878
130000	Scottish Australian Mining Co., c, New	1 0 0	2	1 1/2	15 per cent.	Nov. 1877	
80000	Sierra Buttes, c, California	2 0 0	2	1 1/2	1 18 0	0	2. Oct. 1877
60000	South Aurora, c, Nevada	2 0 0	2	1 1/2	1 18 0	0	2. Oct. 1877
253000	St. John del Rey (25 stock & multiples dealt in)	5 0 0	—	—	310 320	—	30. Dec. 1877
25000	Tolima, c, So. America	6 0 0	—	—	0 11 6	0	6. May 1878
15000	Victoria (London), c, Australia	1 0 0	—	—	0 12 6	0	7. Jan. 1878
15000	Western Andes, c, New Granada	5 0 0	—	—	0 12 0	0	12. Jan. 1878
91000	W. Prussia (5000 pref. sh. 100 pd)	10 0 0	11	10 1/2	1 8 0	0	4. Jan. 1878

NON-DIVIDEND FOREIGN MINES.

Shares.	Miners.	Paid.	Last wk.	Clos. pr.	Total divs.	For sh.	Last pd.
5000	Anguilla Phosphate, West Indies (4000 issued)	10 0 0	—	—	—	—	—
12000	Argentine, c, Argentine Republic	5 0 0	—	—	—	—	—
3000	Bellavista, c, c, (210 shares)	5 0 0	—	—	—	—	—
8000	Blue Tent, c, c, California	5 0 0	—	—	—	—	—
49935	Chontales, c, c, Nicaragua	5 0 0	—	—	—	—	—
16000	Condes de Chilli, c, s	2 0 0	—	—	—	—	—
30000	English Australian, c, Victoria	5 0 0	—	—	—	—	—
15000	Excelsior Hydraulic Gold Washing Co., California	1 0 0	—	—	—	—	—
100000	Exchequer, c, c, California	6 0 0	—	—	—	—	—
40000	Holcombe Valley, c, California	1 0 0	—	—	—	—	—
8000	Hornachos, c, s, Spain	1 0 0	—	—	—	—	—
12000	Huitfall, c, s, Orebr, Sweden	10 0 0	—	—	—	—	—
12000	Hunter Consolidated, c, Utah	5 0 0	—	—	—	—	—
20000	Imperial Brazilian Collieries, Brazil	10 0 0	—	—	—	—	—
100000	I. X. L., c, c, California	5 0 0	—	—	—	—	—
50000	Javali, c, c, Nicaragua	1 0 0	—	—	—	—	—
3500	La Mancha, c, Newfoundland	2 0 0	—	—	—	—	—
12000	Laneros, c, s, Vizcaya, Spain (22 shares)	10 0 0	—	—	—	—	—
7500	Malabar, c, Colombia (27155 pref. shares)	1 15 0	—	—	—	—	—
40000	Malpas, c, Colombia (7400 pref. shares, fully paid)	1 0 0	—	—	—	—	—
12000	Menzenberg, c, Honner, Germany	1 0 0	—	—	—	—	—
4558	New Benberg, c, c, Germany	5 0 0	—	—	—	—	—
60000	New Quebec, c, c, Venezuela	5 0 0	—	—	—	—	—
20000	New Zealand Kapanza, c, c, Coromandel	5 0 0	—	—	—	—	—
8000	Oregon, c, c, Oregon (U.S. preference shares)	5 0 0	—	—	—	—	—
80000	Panuco, c, c, Chile (250000 debentures)	4 0 0	—	—	—	—	—
80000	Pastena United, c, Italy	4 0 0	—	—	—	—	—
80000	Providencia and New Rosario, c, Mexico	4 0 0	—	—	—	—	—
80000	Rica, c, Colombia (40000 issued)	1 0 0	—	—	—	—	—
2,211,000	Rio Tinto, c, c, Huera, Spain	1 0 0	—	—	—	—	—
100000	Rosa Grande, c, Brazil (21 shares)	10 0 0	—	—	—	—	—
25000	River Copper, Orenburg and Ufa	10 0 0	—	—	—	—	—
10000	Silver Piume, c, Colorado	2 0 0	—	—	—	—	—
80000	Tecoma, c, Utah	1 0 0	—	—	—	—	—
43174	United Mexican, c, Mexico	10 0 0	—	—	—	—	—
14400	Utah, c, s, Utah	29 0 3	—	—	—	—	—
50000	Vireberg, c, Rheinbreitbach, Germany (22 shares)	5 0 0	—	—	—	—	—
75000	Yorke Peninsula, c, South Australia	1 15 0	—	—	—	—	—
40000	Yorke Peninsula, c, South Australia	1 0 0	—	—	—	—	—

Have made calls since last dividend was paid.

FOREIGN AND MISCELLANEOUS STOCKS, BONDS, LOANS, AND TRUSTS.

Argentine, 1868, 6 per cent.	Closing Prices.	Foreign and Col. Gov. Trust, 5 p. cent.	Closing Prices.
Bolivia, 6 per cent.	50 3/4	Do, 5 per cent, 3d issue	55 7/8
Brazilian, 1868, 7 per cent.	90 9/16	Do, 6 per cent, 3d issue	53 5/8
Chilian, 1868, 7 per cent.	103 10/16	Do, 1872, 4th issue	58 6/8
City of Providence, 5 p. cent. bonds	100 10/16	Do, 1872, 5th issue	58 5/8
Debt, unified debt, scrip	65 1/2	Peruvian, 1870, 6 per cent.	58 5/8
Do, 7 per cent, V.M.L.	43 1/4	Do, 1872, 6 per cent.	18 1/2
Do, 8 per cent, guaz.	77 80	Russian, 4 1/2 per cent, L. Mort.	14 1/2
Do, 8 p. de la Sanche	44 4/8	Spanish, Quiliver Mort., 5 p. cent.	85 10/16
		United States Mort., 6 per cent.	100 10/16

NON-DIVIDEND MINES.

Shares.	Miners.	Paid.	Last wk.	Clos. pr.
40000	Aberdare, c, Llanidloes*	1 0 0	1	3 1
10000	Aberystwyth, s, Cardigan	5 0 0	—	—
80	Albion, c, Cornwall	100 0 0	—	—
7800	Alvige & Burg, c, St. Aust.	5 0 0	1 1/2	1 1/2 1 1/2
12000	Assheton, c, Carnarvonshire	5 0 0	1	3 1
50000	Ballycumshick, c, Schull	2 0 0	—	—
12000	Bedford Union, c, Tavist. (11. Hab.)	0 10	—	3 1/2 3 1/2
25000	Belstone, c, New (7,000 fy. pd.)	1 0 0	—	—
800	Blaen Caeilan, c, Cardigan	3 0 0	5	4 5
9937	Ble Hill, c, St. Asaph	3 12 6	—	3 1/2 3 1/2
30000	Bodirid, s, bl, Denbighshire	1 0 0	1 1/2	1 1/2 1 1/2
1000	Bollifore Hall, s, s, Durham	5 0 0	—	—
200	Botalack, c, St. Just	123 15 0	—	—
6000	Cwrtwen Hill, s, ma	1 0 0	—	—
8000	Bradwell Moss Make	1 0 0	1	3 1
50000	Cambrian, s, c, Cardiganshire	2 0 0	—	—
3348	Carroll, s, Newlyn	7 40	—	3 1/2 3 1/2
5000	Caron, c, Cardigan	2 0 0	—	—
10000	Central Foxdale, c, I. of Man (24. sh.)	1 5 0	—	2 1/2
1000	Central Van, s, Llanidloes	5 0 0	—	—
5120	Clementina, c, Llanrwst	1 0 0	1 1/2	1 1/2
8000	Combellack, c, Wendron	2 0 0	—	—
1000	Combarint, s, North Devon	0 70	—	—
100	Court Grange, s, Cardiganshire	1 0 0	1 1/2	1 1/2
1000	Cwrt Dwyfor, c, s, Carnarvonsh.	4 0 0	—	—
1000	Cwystwith (New) [bl. shares]	4 0 0	—	—
760	D'Eresby Cons., l, bl, Carnarvon	10 0 0	13	11 12
612	D'Eresby Mountain, l, bl, Llanrwst.	20 0 0	100	8 100
1000	Denbighshire Consolidated, s	3 0 0	1 1/2	1 1/2
1000	Devent, s, Durham	4 0 0	1 1/2	1 1/2
1000	Dubby Skye, l, Durham	0 15 0	—	—
144	East Caradon, c, St. Cleer	2 19 0	1	3 1
100	East Chiverton, l, Perranarabola	7 10	3	2 1/2 3
100	East Craven Moor, s, Pateley Edge	10 0 0	10	9 10
100	East Goginan, l, Cardigan	2 0 0	—	—
22	East Wn. l, Llanidloes	5 0 0	—	—
100	Elgar, s, l, Helston	9 1 0	5	4 1/2 5
100	Elgar, s, l, Cardiganshire	1 0 0	—	—
100	Fronvellan, l, Mont. [4000 sh. fy. pd.]	1 0 0	—	—
50	Gawton, c, Tacticoat	4 5 6	—	—
100	Glan Clwyd, s, l, Gwyddelwern	1 0 0	—	—
100	Glenroy, s, l, Isle of Man	4 5 0	7 1/2	3 1
100	Glyn, s, Llanidloes	2 0 0	—	—
100	Goginan, s, Level Newydd, Card.	2 10 0	—	—
100	Gold, s, Merionethshire	1 0 0	—	—
100	Gorau, s, Carmarthen	0 18	1	3 1
100	Gr. E. Foxdale, l, I. of Man (11. sh)	0 0 0	—	—
100	Great Holwell, l, Flintshire	5 0 0	—	—
100	Great Pant, s, Pydew, l, Holywell	0 5 0	—	—
100	Gr. Wheal Eleanor, c, North Bovey	1 15 0	2	1 1/2 2
100	Harehope Gill, s, Durham (21 sh.)	0 5 0	—	—
100	Hartington Moor, s, carb, l, Derby	1 0 0	—	—
100	Harwood, s, l, Durham	0 15 0	—	—
100	Herdof-hall, l, near Liskeard	8 10	—	—
100	Hingston Down, c, Calstock	0 5 0	—	—
100	Hush Elsteddof Minera, s, l	2 0 0	—	—
100	Ialay, s, l, Scotland	28 0 0	—	—
100	Killaloe, s, Tipperary	1 0 0	—	—
100	Killfresh, c, Chacewater	2 3 6	—	—
100	Kingston Con., s, Stoke Climsland.	1 0 0	—	—
100	Ditto, preference	1 0 0	—	—
100	Ladywell, s, l, Salop.	2 10 0	1 1/2	1 1/2
100	Ditto, 10 per cent. pref., l, each	0 10 0	—	—
100	Levant, c, s, St. Just	9 18 6	—	—
100	Livingstone Consols, c, St. Agnes	0 10 0	—	—
100	Level, l, Wendron	0 16 0	2	1 1/2 2
100	Llanrhadr, l, Montgomery	2 0 0	—	—
100	Llanrwst, s, l, Carnarvon	2 0 0	—	—
100	Llawstons, l, South Wales	50 0 0	60	55 60
100	Lleyn, c, l, Cardigan	1 17 4	—	—
100	Llond Gwddu, l, Cardigan (Red.)	3 0 0	1 1/2	1 1/2
100	Llora Du, c, s, s, Anglesea	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0 0	—	—
100	Llan-y-Ronen, s, l, Cardigan	1 0		